

Question #1 of 60

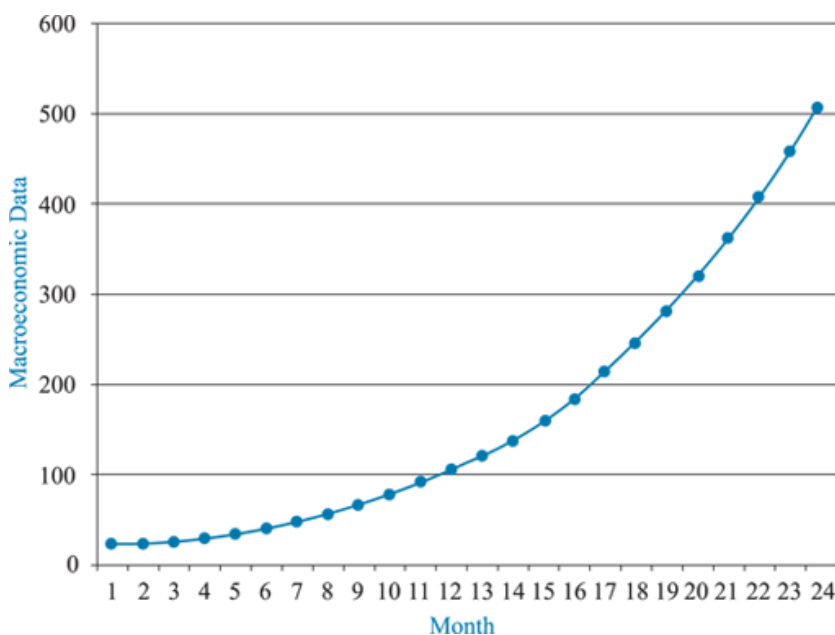
Question ID: 691264

Questions 61-66 relate to Joan Fisher and Kim Weatherford.

Joan Fisher and Kim Weatherford are economists responsible for modeling security returns for Quincy Portfolio Managers, which is located in the southwestern United States. Fisher is the firm's chief economist and Weatherford is her assistant.

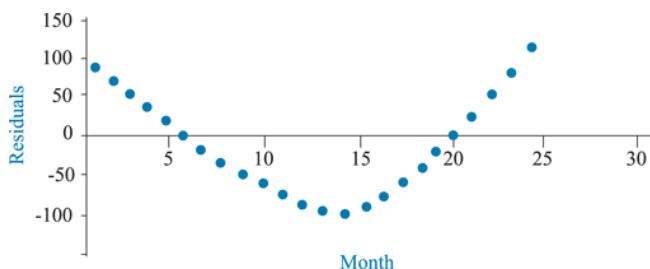
Fisher has been busy over the past week modeling the macroeconomic data of an emerging market. The data for the past 24 months is shown in Exhibit 1.

Exhibit 1: Time Series of Emerging Markets Data



Fisher ponders how she can run a regression that will model the data for this country in the most appropriate way. She decides to regress the macroeconomic values against a time variable. The resulting plot of the residuals is shown in Exhibit 2.

Exhibit 2: Residual Plot from Emerging Markets Data



In addition to financial assets, Quincy Portfolio Managers also recommends the use of commodities as a portfolio diversifier. Weatherford has been examining price indices for silver in an attempt to determine whether silver returns are predictable. As an initial step, she uses an autoregressive first-order regression model on daily price data for silver over the past two years. The plot of the raw data and the results of the regression are shown in Exhibits 3 and 4.

Exhibit 3: Time Series of Silver Prices

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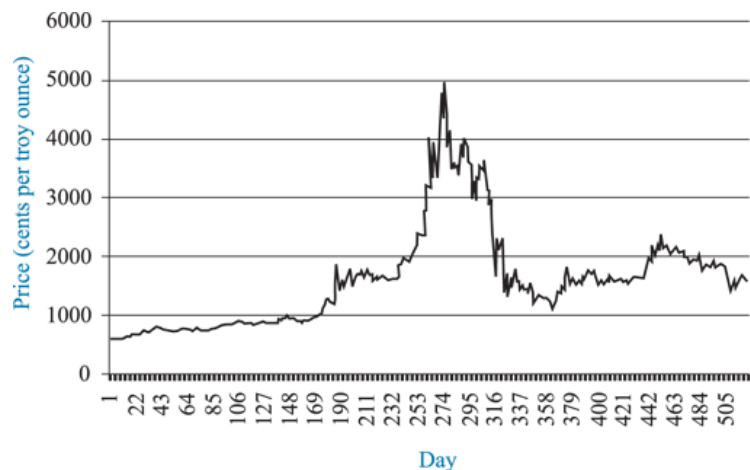


Exhibit 4: Silver Price Regression Results

Regression Statistics	
Multiple R	0.99
R-Square	0.98
Adjusted R-Square	0.98
Standard Error	123.81
Observations	522.00
Durbin-Watson	2.39

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.00	365,730,065	365,730,065	23,859.63	0.00
Residual	520.00	7,970,771	15,328		
Total	521.00	373,700,837			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t-Stat</i>	<i>P-value</i>
Intercept	21.00	11.56	1.82	0.07
Slope	0.99	0.01	154.47	0.00

Fisher and Weatherford later discuss fluctuations in gold prices. Although the arithmetic and geometric mean returns for gold were negative for much of the 1980s and 1990s, Fisher and Weatherford believe that gold should perform better in the future due to higher expected inflation. After appropriate transformation of the data, they use an autoregressive first-order regression model to examine the characteristics of gold returns, the results of which are shown in Exhibit 5.

Exhibit 5: Gold Price Regression Results

Regression Statistics	
Multiple R	0.09
R-Square	0.01

Adjusted <i>R</i> -Square	0.01
Standard Error	123.95
Observations	520.00

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.00	66,742	66,742	4.34	0.04
Residual	518.00	7,958,144	15,363		
Total	519.00	8,024,887			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t-Stat</i>	<i>P-value</i>
Intercept	2.00	5.44	0.37	0.71
Slope	-0.09	0.04	-2.08	0.04

In order to *best* model the emerging markets data using linear regression, Fisher should use:

- A) an adjustment for multicollinearity.
- B) the natural log of the dependent variable.
- C) White's correction for the standard errors.

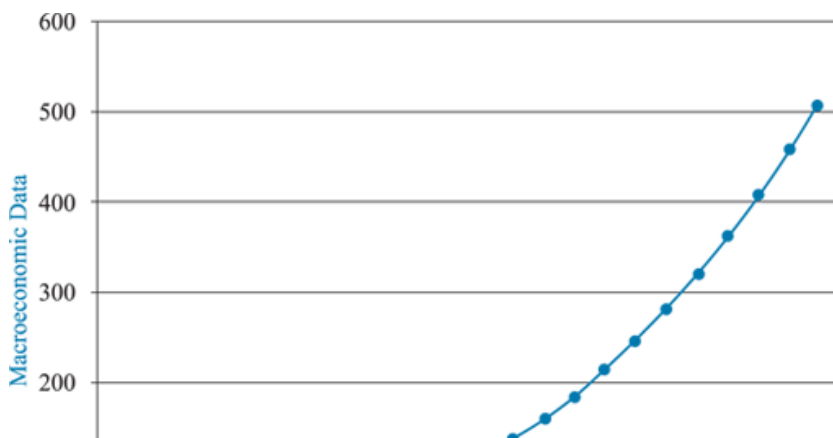
Question #2 of 60

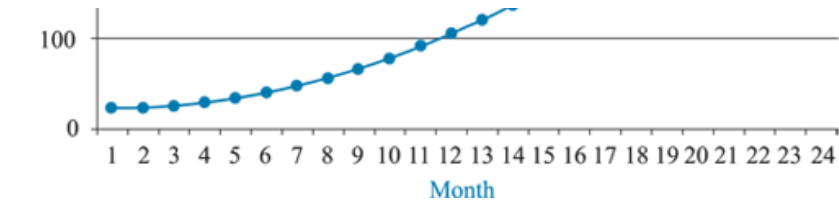
Question ID: 691265

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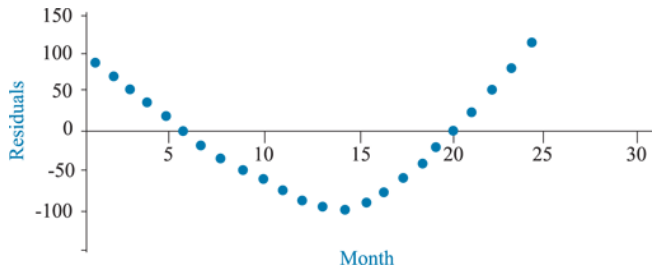
Exhibit 1: Time Series of Emerging Markets Data





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Exhibit 2: Residual Plot from Emerging Markets Data



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Exhibit 3: Time Series of Silver Prices

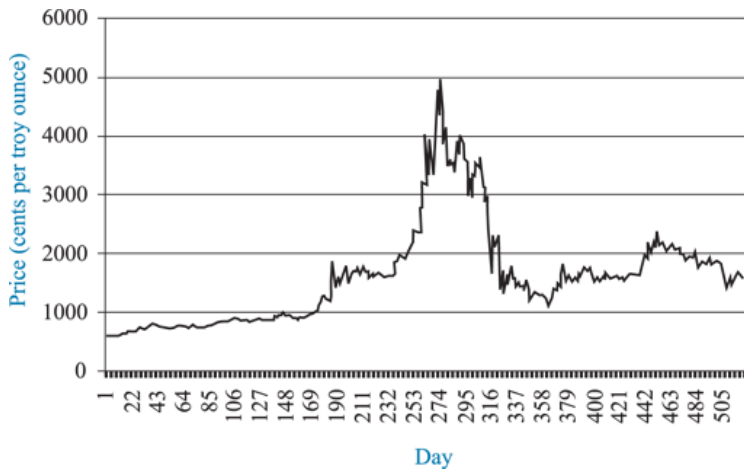


Exhibit 4: Silver Price Regression Results

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ANOVA	Significance
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ANOVA

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Intercept	2.00	5.44	0.37	0.71
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The *most likely* problem in Fisher's regression of the emerging market data and the *most appropriate* test for it in the regression are:

Problem

Test

A) Serial correlation Durbin Watson

B) Serial correlation Dickey Fuller

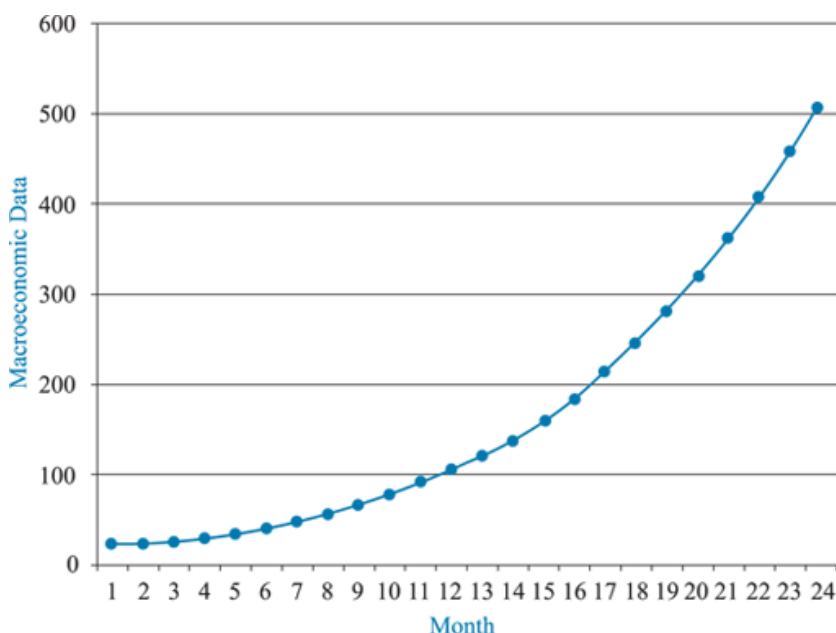
Question #3 of 60

Question ID: 691267

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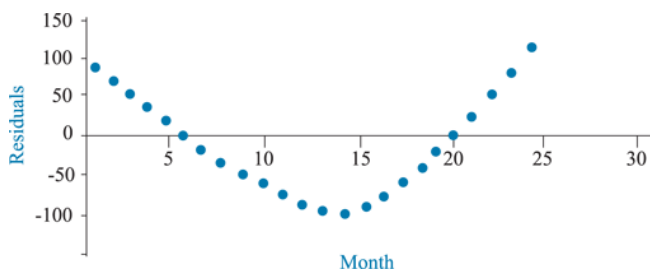
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Exhibit 1: Time Series of Emerging Markets Data



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Exhibit 2: Residual Plot from Emerging Markets Data



In addition to financial assets, Quincy Portfolio Managers also recommends the use of commodities as a portfolio diversifier. Weatherford has been examining price indices for silver in an attempt to determine whether silver returns are predictable. As an initial step, she uses an autoregressive first-order regression model on daily price data for silver over the past two years. The plot of the raw data and the results of the regression are shown in Exhibits 3 and 4.

Exhibit 3: Time Series of Silver Prices

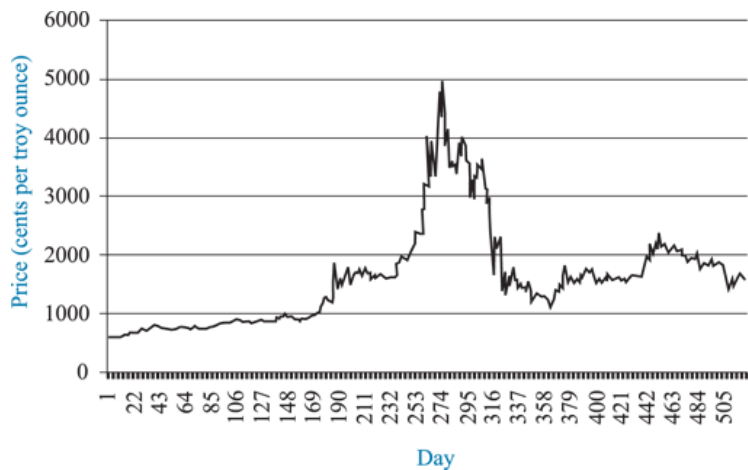


Exhibit 4: Silver Price Regression Results

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ANOVA

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ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
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Intercept	2.00	5.44	0.37	0.71
Slope	-0.09	0.04	-2.08	0.04

Is the use of the Durbin Watson statistic in Weatherford's silver regression appropriate and, if so, how should it be interpreted?

- A) No.
- B) Yes, and it appears that the error terms are positively correlated.
- C) Yes, and it appears that the error terms are negatively correlated.

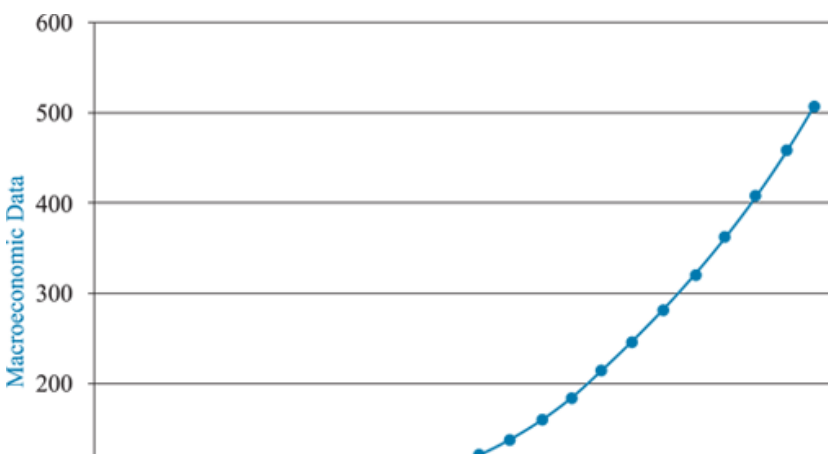
Question #4 of 60

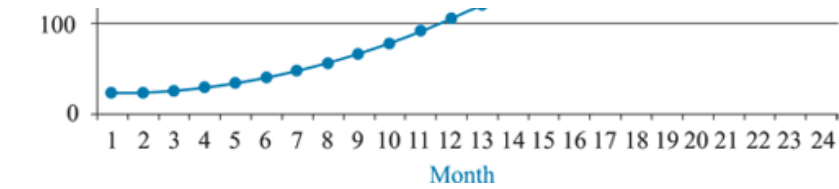
Question ID: 691266

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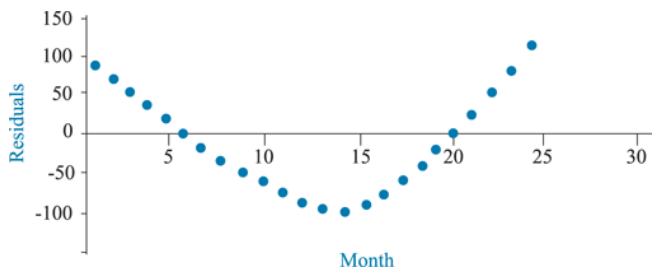
Exhibit 1: Time Series of Emerging Markets Data





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Exhibit 2: Residual Plot from Emerging Markets Data



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Exhibit 3: Time Series of Silver Prices



Exhibit 4: Silver Price Regression Results

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Adjusted R-Square	0.98
Standard Error	123.81
Observations	522.00
Durbin-Watson	2.39

ANOVA

	df	SS	MS	F	Significance
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Intercept	2.00	5.44	0.37	0.71
Slope	-0.09	0.04	-2.08	0.04

Which of the following are the *most likely* problem in Weatherford's silver regression and the *most appropriate* test for it?

Problem

Test

A) Multicollinearity Breusch Pagan

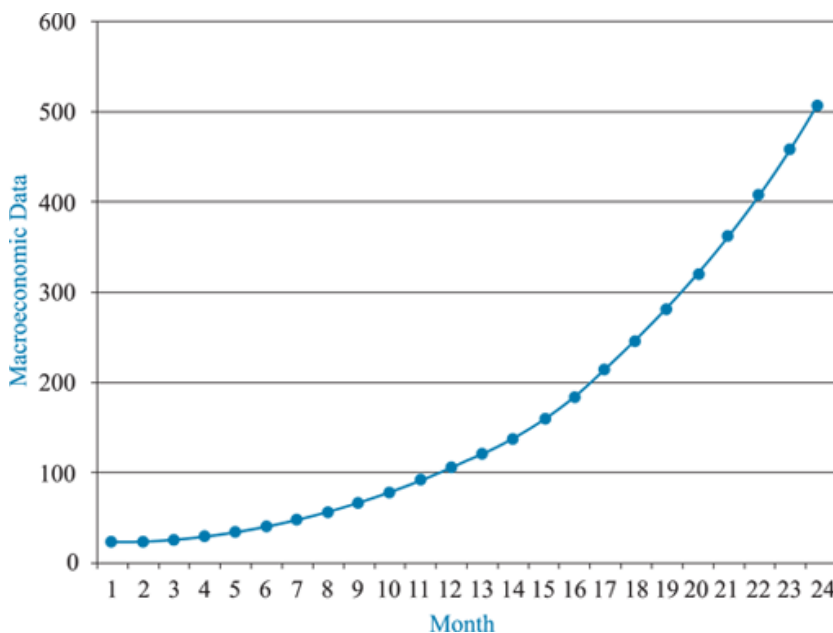
B) Multicollinearity Dickey Fuller

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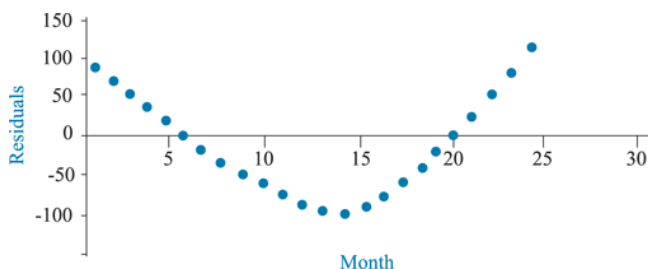
Question ID: 691269

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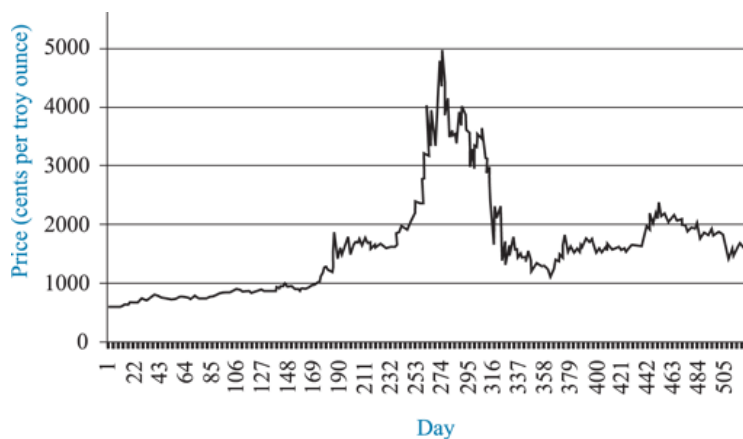


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ANOVA

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ANOVA

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Intercept	2.00	5.44	0.37	0.71
Slope	-0.09	0.04	-2.08	0.04

In order to *best* model the silver price data using an autoregressive first-order regression model, Weatherford should use:

- A) first differences of the data.
- B) the actual silver price levels.
- C) the predicted silver price levels.

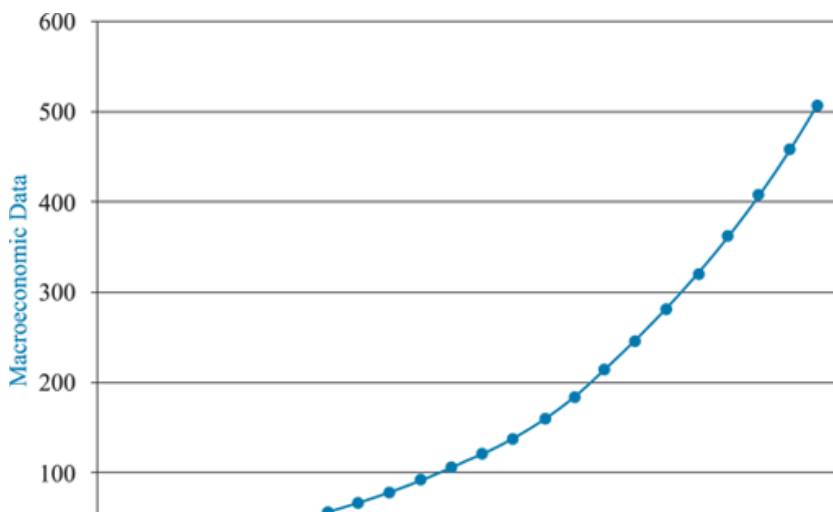
Question #6 of 60

Question ID: 691268

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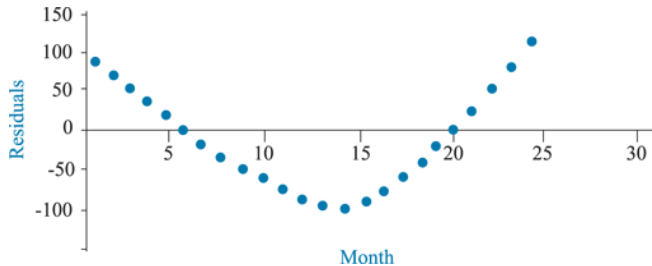
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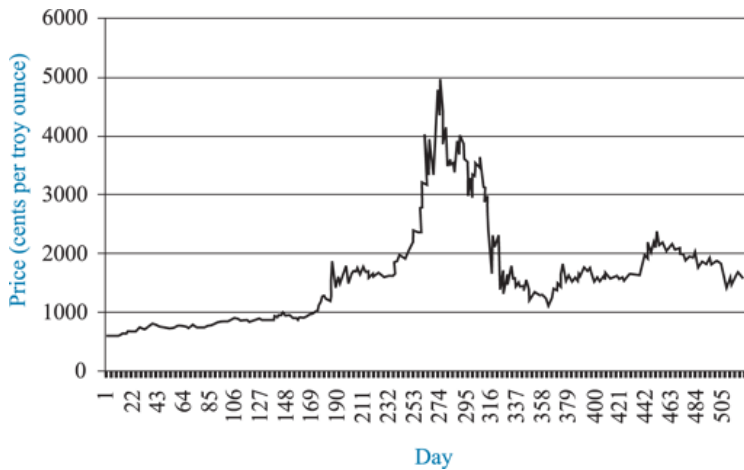


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ANOVA				
	df	SS	MS	F
				Significance F

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Intercept	2.00	5.44	0.37	0.71
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Using the data for the gold regression, what is the mean reverting level and what is the two-step-ahead forecast if the current value of the independent variable is -0.80?

Mean reverting level Two-step-ahead forecast

A) 1.830 1.75

B) 1.830 1.81

C) 2.072 1.81

Question #7 of 60

Question ID: 691270

Questions 67-72 relate to Iberia Corporation.

Bryan Stephenson is an equity analyst and is developing a research report on Iberia Corporation at the request of his supervisor. Iberia is a conglomerate entity with significant corporate holdings in various industries. Specifically, Stephenson is interested in the effects of Iberia's investments on its financial performance and has decided to focus on two investments: Midland Incorporated and Odessa Company.

Midland Incorporated

On December 31, 2007, Iberia purchased 5 million common shares of Midland Incorporated for €80 million. Midland has a total of 12.5 million common shares outstanding. The market value of Iberia's investment in Midland was €89 million at the end of 2008, and €85 million at the end of 2009. For the year ended 2008, Midland reported net income of €30 million and paid dividends of €10 million. For the year ended 2009, Midland reported a loss of €5 million and paid dividends of €4 million.

During 2010, Midland sold goods to Iberia and reported 20% gross profit from the sale. Iberia sold all of the goods to a third party in 2010.

Odessa Company

On January 2, 2009, Iberia purchased 1 million common shares of Odessa Company as a long-term investment. The purchase price was €20 per share, and on December 31, 2009, the market price of Odessa was €17 per share. The decline in value was considered temporary. For the year ended 2009, Odessa reported net income of €750 million and paid a dividend of €3 per share. Iberia considers its investment in Odessa as an investment in financial assets.

In addition, Iberia has a number of foreign investments, so Stephenson's supervisor has asked him to draft a report on accounting methods and ratio analysis. The following are statements from Stephenson's research report.

Statement 1: Under U.S. GAAP, Iberia cannot account for its investment in associates at fair value as that option is only available to venture capital firms, mutual funds, or similar entities.

Statement 2: In general, if the parent's consolidated net income is positive, the equity method reports a higher net profit margin than the acquisition method.

Which of the following is the *most* appropriate classification of Iberia's investment in Odessa Corporation?

- A) Held-to-maturity.
- B) Held-for-trading.
- C) Available-for-sale.

Question #8 of 60

Question ID: 691271

Bryan Stephenson is an equity analyst and is developing a research report on Iberia Corporation at the request of his supervisor. Iberia is a conglomerate entity with significant corporate holdings in various industries. Specifically, Stephenson is interested in the effects of Iberia's investments on its financial performance and has decided to focus on two investments: Midland Incorporated and Odessa Company.

Midland Incorporated

On December 31, 2007, Iberia purchased 5 million common shares of Midland Incorporated for €80 million. Midland has a total of 12.5 million common shares outstanding. The market value of Iberia's investment in Midland was €89 million at the end of 2008, and €85 million at the end of 2009. For the year ended 2008, Midland reported net income of €30 million and paid dividends of €10 million. For the year ended 2009, Midland reported a loss of €5 million and paid dividends of €4 million.

During 2010, Midland sold goods to Iberia and reported 20% gross profit from the sale. Iberia sold all of the goods to a third party in 2010.

Odessa Company

On January 2, 2009, Iberia purchased 1 million common shares of Odessa Company as a long-term investment. The purchase price was €20 per share, and on December 31, 2009, the market price of Odessa was €17 per share. The decline in value was considered temporary. For the year ended 2009, Odessa reported net income of €750 million and paid a dividend of €3 per share. Iberia considers its investment in Odessa as an investment in financial assets.

In addition, Iberia has a number of foreign investments, so Stephenson's supervisor has asked him to draft a report on accounting methods and ratio analysis. The following are statements from Stephenson's research report.

Statement 1: Under U.S. GAAP, Iberia cannot account for its investment in associates at fair value as that option is only available to venture capital firms, mutual funds, or similar entities.

Statement 2: In general, if the parent's consolidated net income is positive, the equity method reports a higher net profit margin than the acquisition method.

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What amount should Iberia recognize in its 2009 income statement as a result of its investments in Midland and Odessa?

- A) €1 million profit.
- B) €2 million profit.
- C) €3 million loss.

Question #9 of 60

Question ID: 691272

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Statement 2: In general, if the parent's consolidated net income is positive, the equity method reports a higher net profit margin than the acquisition method.

What amount should Iberia report on its balance sheet at the end of 2009 as a result of its investments in Midland and Odessa?

- A) €84.4 million.
- B) €101.4 million.
- C) €102.0 million.

Question #10 of 60

Question ID: 691273

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Midland Incorporated

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Statement 2: In general, if the parent's consolidated net income is positive, the equity method reports a higher net profit margin than the acquisition method.

What adjustment, if any, must Iberia make to its 2010 income statement as a result of the intercompany transaction with Midland?

- A) Sales and cost of goods sold should be reduced by Iberia's pro-rata ownership interest in the intercompany sale.
- B) Midland's net income should be reduced by 20% of the gross profit from the intercompany sale.
- C) No adjustment is necessary.

Question #11 of 60

Question ID: 691274

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In addition, Iberia has a number of foreign investments, so Stephenson's supervisor has asked him to draft a report on accounting methods and ratio analysis. The following are statements from Stephenson's research report.

Statement 1: Under U.S. GAAP, Iberia cannot account for its investment in associates at fair value as that option is only available to venture capital firms, mutual funds, or similar entities.

Statement 2: In general, if the parent's consolidated net income is positive, the equity method reports a higher net profit margin than the acquisition method.

Is Stephenson's statement 1 correct?

- A) Yes.
- B) No, because under U.S. GAAP, all entities can account for their investment in associates at fair value.
- C) No, because under U.S. GAAP, accounting of investment in associates at fair value is not allowed for any entity.

Question #12 of 60

Question ID: 691275

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Statement 1: Under U.S. GAAP, Iberia cannot account for its investment in associates at fair value as that option is only available to venture capital firms, mutual funds, or similar entities.

Statement 2: In general, if the parent's consolidated net income is positive, the equity method reports a higher net profit margin than the acquisition method.

Is Stephenson's statement 2 correct?

- A) Yes.
- B) No. Net profit margin will be lower using the equity method.
- C) No. Net profit margin will be the same using either the equity method or the acquisition method.

Question #13 of 60

Question ID: 691905

Questions 73-78 relate to Andrew Carson and Samilski Enterprises.

Andrew Carson is an equity analyst employed at Lee Vincent and Associates, an investment research firm. Carson is responsible for following Samilski Enterprises (Samilski), a publicly traded firm that produces motorcycles and associated mechanical parts. Samilski reports under U.S. GAAP.

Exhibit 1 shows selected financial data pertaining to Samilski's employee pension plan.

Exhibit 1: Selected Pension Plan Information for FY 20X9

	<i>\$ millions</i>
Current service cost	118
Past service cost	36
Beginning PBO	1,022
Ending PBO	1,198

Interest cost	82
Actual return on plan assets	214
Employer contribution	102
<u>Beginning plan assets</u>	<u>896</u>

During fiscal year 20X9, a change in actuarial assumptions regarding employee life expectancy resulted in an actuarial loss of \$128 million. Average employee service life is estimated to be 20 years. The discount rate and expected return on plan assets are 8% and 10% respectively. Carson believes that rate of compensation increase will be 5% as opposed to the 4% assumed by the plan.

.....

If Samilski's expected rate of return on plan assets was the same as the discount rate used to compute the plan's benefit obligation, the resulting total periodic pension cost and PBO would *most likely* be:

Total periodic pension cost PBO

- | | |
|---------------------|-----------|
| A) Higher | Higher |
| B) Unchanged | Unchanged |
| C) Higher | Unchanged |

Question #14 of 60

Question ID: 691901

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by the plan.

The amount of benefits paid during the year is *closest* to:

- A) \$76 million.
 - B) \$132 million.
 - C) \$188 million.
-

Question #15 of 60

Question ID: 691902

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Employer contribution	102
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During fiscal year 20X9, a change in actuarial assumptions regarding employee life expectancy resulted in an actuarial loss of \$128 million. Average employee service life is estimated to be 20 years. The discount rate and expected return on plan assets are 8% and 10% respectively. Carson believes that rate of compensation increase will be 5% as opposed to the 4% assumed by the plan.

The ending fair value of plan assets is *closest* to:

- A) \$1,024 million.
 - B) \$1,128 million.
 - C) \$1,412 million.
-

Question #16 of 60

Question ID: 691903

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Exhibit 1: Selected Pension Plan Information for FY 20X9

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The total periodic pension cost is *closest* to:

- A) \$62 million.
- B) \$76 million.
- C) \$150 million.

Question #17 of 60

Question ID: 691904

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Exhibit 1: Selected Pension Plan Information for FY 20X9

	<i>\$ millions</i>
Current service cost	118

Past service cost	36
Beginning PBO	1,022
Ending PBO	1,198
Interest cost	82
Actual return on plan assets	214
Employer contribution	102
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During fiscal year 20X9, a change in actuarial assumptions regarding employee life expectancy resulted in an actuarial loss of \$128 million. Average employee service life is estimated to be 20 years. The discount rate and expected return on plan assets are 8% and 10% respectively. Carson believes that rate of compensation increase will be 5% as opposed to the 4% assumed by the plan.

The amount of periodic pension cost reported in P&L if Samilski reported under IFRS would be *closest* to:

- A) \$144 million.
- B) \$152 million.
- C) \$164 million.

Question #18 of 60

Question ID: 691906

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Interest cost	82
Actual return on plan assets	214
Employer contribution	102
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During fiscal year 20X9, a change in actuarial assumptions regarding employee life expectancy resulted in an actuarial loss of \$128 million. Average employee service life is estimated to be 20 years. The discount rate and expected return on plan assets are 8% and 10% respectively. Carson believes that rate of compensation increase will be 5% as opposed to the 4% assumed by the plan.

For this question, assume that Samilski had changed their assumed level of compensation growth rate to the one estimated by Carson. Based on this change only, what will be the *most likely* effects on the next period's current service cost and net interest cost if Samilski reported under IFRS?

- A) Both will increase.
- B) Current service cost will increase while net interest cost will be unaffected.
- C) One will increase and the other will decrease.

Question #19 of 60

Question ID: 691291

Questions 79-84 relate to Kazmaier Foods.

The board members for Kazmaier Foods have gathered for their quarterly board of directors meeting. Presiding at the meeting is the Chairman and CEO for Kazmaier, Phil Hinesman. The other eight members of the board are also present, including Allen Kazmaier, the brother of Kazmaier's founder; Elaine Randall, Executive Vice President for Emerald Bank, which Kazmaier uses to obtain short-term financing; and Bill Schram, Kazmaier's President and Chief Operating Officer. Each of the directors was elected to serve on the board for a 4-year term. They were elected two at a time over the past three years. With the exception of Hinesman, Allen Kazmaier, Randall, and Schram, board members had no ties to Kazmaier prior to joining the board and had no personal relationships with management. In addition to the regular board meetings, the five independent board members get together annually, in a meeting separate from the regular board meetings, to discuss the company's operations.

Item 1 on the board meeting agenda is a discussion about the importance of corporate governance and how Kazmaier can improve its corporate governance system. Hinesman begins the discussion by saying, "A strong system of corporate governance is important to our shareholders. Studies have shown that, on average, companies with strong corporate governance systems have higher measures of profitability than companies with weak corporate governance systems." Randall adds her comment to the discussion: "The lack of an effective corporate governance system increases risk for our investors. If we do not have the appropriate checks and balances in place, our investors may be exposed to the risk that information used to make decisions about our firm is misleading or incomplete, as well as the risk that mergers or acquisitions the firm enters into will benefit management at the expense of shareholders."

After a lengthy discussion, the board agrees on five separate recommendations that will enhance its current system of corporate governance. One of these recommendations is to change the function and structure of the board's audit committee. Currently, the audit committee consists of Matthew Bortz, David Smith, and Ann Williams—three independent directors who each have backgrounds in finance and accounting. The board agrees that one more member should be added to the committee and that the committee should expand its list of responsibilities.

Item 2 on the agenda for the board of directors' meeting is a report from Kazmaier's Chief Financial Officer, Doug Layman. The following information was included in the material that was distributed to each board member before the meeting:

(\$ Millions)	20X0	20X1*
Net income	\$98.50	\$112.50

Cash flow from operations	\$115.00	\$132.00
Capital expenditures (FCInv)	\$43.00	\$150.00
Net borrowing	\$22.00	\$75.00
Dividends paid	\$42.88	\$45.00
Stock repurchases	\$42.00	\$3.00

*Estimated

Additional information:

Current share price:	\$40.00
Shares outstanding:	56,250,000
Target debt-to-equity ratio:	1 to 1
Cost of equity:	8.0%
Constant growth rate:	5.2%

Layman tells the board that his analysis indicates that, based on a constant-growth dividend discount model, the current stable dividend policy would reduce the cost of equity by 1.2% and increase the value of the firm's stock, assuming that earnings, the cost of debt, and the constant growth rate don't change.

Item 3 on the agenda is the sale of Kazmaier's condiment packaging division to Sautter Packaging and Supply Company. Layman believes the sale will net the company \$50 million, payable in cash. After discussing the pros and cons of selling the division, the directors agree that the sale is in the best interests of the company and its shareholders. The directors then move to a vote, and the sale of the condiment packaging division is approved unanimously. The committee then moves on to discuss what to do with the proceeds from the sale. Williams suggests that paying out the \$50 million to shareholders as a special dividend would continue to give the firm flexibility in how it uses its excess cash. Smith tells the board that a share repurchase can be thought of as an alternative to a cash dividend, and that if the tax treatment between the two alternatives is the same, investors should be indifferent between the two. After debating the merits of special dividends and stock repurchases, Kazmaier's board authorizes the proceeds from the sale of the condiment packaging division to be used for the purchase of \$50 million worth of outstanding shares.

An external agency recently included Kazmaier in a review of corporate governance systems to determine whether the structure of the board of directors was consistent with corporate governance best practices. The agency scored companies based on the following criteria:

- Criterion 1: Composition of the board of directors.
- Criterion 2: Chairman of the board of directors.
- Criterion 3: Method of electing the board.
- Criterion 4: Frequency of separate sessions for independent directors.

Each of the four criteria was weighted equally, with the firm receiving a positive mark for being in compliance with corporate governance best practice.

A month after the board meeting, the price of Kazmaier stock is still at \$40 per share, and the sale of Kazmaier's condiment packaging division does not go through. In order to finance the approved share repurchase, Kazmaier is forced to borrow

packaging division does not go through. In order to finance the approved share repurchase, Kazmaier is forced to borrow funds. Schram states, "I am concerned that the cost of the debt used to repurchase shares may cause a reduction in earnings per share."

Jennifer Nagy, a vice president in Kazmaier's finance division, tells Schram not to be concerned about using debt to finance the share repurchase because the rationale behind the repurchase is sound. Nagy then writes down some of the common rationales for share repurchases and hands them to Schram.

Rationale 1: Repurchasing shares can prevent the EPS dilution that comes from the exercise of employee stock options.

Rationale 2: Management can use a share repurchase to alter the company's capital structure by decreasing the percentage of equity.

Rationale 3: Like a dividend increase, a share repurchase is a way to send a signal to investors that Kazmaier's management believes the outlook for the company's future is strong.

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Are the comments made by Hinesman and Randall about corporate governance systems correct?

- A) Both comments are correct.
- B) Only Hinesman is correct.
- C) Only Randall is correct.

Question #20 of 60

Question ID: 691292

The board members for Kazmaier Foods have gathered for their quarterly board of directors meeting. Presiding at the meeting is the Chairman and CEO for Kazmaier, Phil Hinesman. The other eight members of the board are also present, including Allen Kazmaier, the brother of Kazmaier's founder; Elaine Randall, Executive Vice President for Emerald Bank, which Kazmaier uses to obtain short-term financing; and Bill Schram, Kazmaier's President and Chief Operating Officer. Each of the directors was elected to serve on the board for a 4-year term. They were elected two at a time over the past three years. With the exception of Hinesman, Allen Kazmaier, Randall, and Schram, board members had no ties to Kazmaier prior to joining the board and had no personal relationships with management. In addition to the regular board meetings, the five independent board members get together annually, in a meeting separate from the regular board meetings, to discuss the company's operations.

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After a lengthy discussion, the board agrees on five separate recommendations that will enhance its current system of corporate governance. One of these recommendations is to change the function and structure of the board's audit committee. Currently, the audit committee consists of Matthew Bortz, David Smith, and Ann Williams—three independent directors who each have backgrounds in finance and accounting. The board agrees that one more member should be added to the committee and that the committee should expand its list of responsibilities.

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- Rationale 1: Repurchasing shares can prevent the EPS dilution that comes from the exercise of employee stock options.
- Rationale 2: Management can use a share repurchase to alter the company's capital structure by decreasing the percentage of equity.
- Rationale 3: Like a dividend increase, a share repurchase is a way to send a signal to investors that Kazmaier's management believes the outlook for the company's future is strong.

Which of the following pairs of recommendations would be *best* in helping Kazmaier's audit committee comply with corporate governance best practices?

- A) The internal audit staff of the firm should report directly to the audit committee, all of the audit committee members should be independent, and the committee should meet with auditors at least annually without management present.
- B) At least 75% of the audit committee members should be independent, and all of the committee members should have a background in finance and accounting.
- C) All of the audit committee members should be independent and should meet with management at least annually to discuss findings in internal audits.

Question #21 of 60

Question ID: 691290

The board members for Kazmaier Foods have gathered for their quarterly board of directors meeting. Presiding at the meeting is the Chairman and CEO for Kazmaier, Phil Hinesman. The other eight members of the board are also present,

including Allen Kazmaier, the brother of Kazmaier's founder; Elaine Randall, Executive Vice President for Emerald Bank, which Kazmaier uses to obtain short-term financing; and Bill Schram, Kazmaier's President and Chief Operating Officer. Each of the directors was elected to serve on the board for a 4-year term. They were elected two at a time over the past three years. With the exception of Hinesman, Allen Kazmaier, Randall, and Schram, board members had no ties to Kazmaier prior to joining the board and had no personal relationships with management. In addition to the regular board meetings, the five independent board members get together annually, in a meeting separate from the regular board meetings, to discuss the company's operations.

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(\$ Millions)	20X0	20X1*
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Additional information:

Current share price:	\$40.00
Shares outstanding:	56,250,000
Target debt-to-equity ratio:	1 to 1
Cost of equity:	8.0%
Constant growth rate:	5.2%

Layman tells the board that his analysis indicates that, based on a constant-growth dividend discount model, the current stable dividend policy would reduce the cost of equity by 1.2% and increase the value of the firm's stock, assuming that earnings, the cost of debt, and the constant growth rate don't change.

Item 3 on the agenda is the sale of Kazmaier's condiment packaging division to Sautter Packaging and Supply Company. Layman believes the sale will net the company \$50 million, payable in cash. After discussing the pros and cons of selling the division, the directors agree that the sale is in the best interests of the company and its shareholders. The directors then move to a vote, and the sale of the condiment packaging division is approved unanimously. The committee then moves on to discuss what to do with the proceeds from the sale. Williams suggests that paying out the \$50 million to shareholders as a special dividend would continue to give the firm flexibility in how it uses its excess cash. Smith tells the board that a share repurchase can be thought of as an alternative to a cash dividend, and that if the tax treatment between the two alternatives is the same, investors should be indifferent between the two. After debating the merits of special dividends and stock repurchases, Kazmaier's board authorizes the proceeds from the sale of the condiment packaging division to be used for the purchase of \$50 million worth of outstanding shares.

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- Rationale 3: Like a dividend increase, a share repurchase is a way to send a signal to investors that Kazmaier's management believes the outlook for the company's future is strong.

Based on the financial information distributed to the board members, the dividend per share for 20X1 based on a residual dividend approach should be *closest* to:

- A) \$0.00.
- B) \$0.22.
- C) \$0.67.

Question #22 of 60

Question ID: 691289

The board members for Kazmaier Foods have gathered for their quarterly board of directors meeting. Presiding at the meeting is the Chairman and CEO for Kazmaier, Phil Hinesman. The other eight members of the board are also present, including Allen Kazmaier, the brother of Kazmaier's founder; Elaine Randall, Executive Vice President for Emerald Bank, which Kazmaier uses to obtain short-term financing; and Bill Schram, Kazmaier's President and Chief Operating Officer. Each of the directors was elected to serve on the board for a 4-year term. They were elected two at a time over the past three years. With the exception of Hinesman, Allen Kazmaier, Randall, and Schram, board members had no ties to Kazmaier prior to joining the board and had no personal relationships with management. In addition to the regular board meetings, the five independent board members get together annually, in a meeting separate from the regular board meetings, to discuss the company's operations.

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After a lengthy discussion, the board agrees on five separate recommendations that will enhance its current system of corporate governance. One of these recommendations is to change the function and structure of the board's audit committee. Currently, the audit committee consists of Matthew Bortz, David Smith, and Ann Williams—three independent directors who each have backgrounds in finance and accounting. The board agrees that one more member should be added to the committee and that the committee should expand its list of responsibilities.

Item 2 on the agenda for the board of directors' meeting is a report from Kazmaier's Chief Financial Officer, Doug Layman. The following information was included in the material that was distributed to each board member before the meeting:

(\$ Millions)	20X0	20X1*
Net income	\$98.50	\$112.50
Cash flow from operations	\$115.00	\$132.00
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Net borrowing	\$22.00	\$75.00
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Additional information:

Current share price:	\$40.00
Shares outstanding:	56,250,000
Target debt-to-equity ratio:	1 to 1
Cost of equity:	8.0%
Constant growth rate:	5.2%

Layman tells the board that his analysis indicates that, based on a constant-growth dividend discount model, the current stable dividend policy would reduce the cost of equity by 1.2% and increase the value of the firm's stock, assuming that earnings, the cost of debt, and the constant growth rate don't change.

Item 3 on the agenda is the sale of Kazmaier's condiment packaging division to Sautter Packaging and Supply Company. Layman believes the sale will net the company \$50 million, payable in cash. After discussing the pros and cons of selling the division, the directors agree that the sale is in the best interests of the company and its shareholders. The directors then move to a vote, and the sale of the condiment packaging division is approved unanimously. The committee then moves on to discuss what to do with the proceeds from the sale. Williams suggests that paying out the \$50 million to shareholders as a special dividend would continue to give the firm flexibility in how it uses its excess cash. Smith tells the board that a share repurchase can be thought of as an alternative to a cash dividend, and that if the tax treatment between the two alternatives is the same, investors should be indifferent between the two. After debating the merits of special dividends and stock repurchases, Kazmaier's board authorizes the proceeds from the sale of the condiment packaging division to be used for the purchase of \$50 million worth of outstanding shares.

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Each of the four criteria was weighted equally, with the firm receiving a positive mark for being in compliance with corporate governance best practice.

A month after the board meeting, the price of Kazmaier stock is still at \$40 per share, and the sale of Kazmaier's condiment packaging division does not go through. In order to finance the approved share repurchase, Kazmaier is forced to borrow funds. Schram states, "I am concerned that the cost of the debt used to repurchase shares may cause a reduction in earnings per share."

Jennifer Nagy, a vice president in Kazmaier's finance division, tells Schram not to be concerned about using debt to finance the share repurchase because the rationale behind the repurchase is sound. Nagy then writes down some of the common rationales for share repurchases and hands them to Schram.

Rationale 1: Repurchasing shares can prevent the EPS dilution that comes from the exercise of employee stock options.

Rationale 2: Management can use a share repurchase to alter the company's capital structure by decreasing the percentage of equity.

Rationale 3: Like a dividend increase, a share repurchase is a way to send a signal to investors that Kazmaier's management believes the outlook for the company's future is strong.

Based on the financial information distributed to the board members, the FCFE coverage ratios for 20X0 and 20X1 are *closest* to:

	<u>20X0</u>	<u>20X1</u>
A)	2.19	1.27
B)	1.11	1.19
C)	1.35	2.75

Question #23 of 60

Question ID: 691293

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Currently, the audit committee consists of Matthew Bortz, David Smith, and Ann Williams—three independent directors who each have backgrounds in finance and accounting. The board agrees that one more member should be added to the committee and that the committee should expand its list of responsibilities.

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Target debt-to-equity ratio:	1 to 1
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Layman tells the board that his analysis indicates that, based on a constant-growth dividend discount model, the current stable dividend policy would reduce the cost of equity by 1.2% and increase the value of the firm's stock, assuming that earnings, the cost of debt, and the constant growth rate don't change.

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Kazmaier's total score on the corporate governance report is *closest* to:

- A) 25%.
- B) 50%.
- C) 75%.

Question #24 of 60

Question ID: 691288

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How many of Nagy's rationales for a share repurchase are valid?

- A) One.
- B) Two.
- C) Three.

Question #26 of 60**Questions 85-90 relate to Henke Malfoy.**

Henke Malfoy, CFA, is an analyst with a major manufacturing firm. Currently, he is evaluating the replacement of some production equipment. The old machine is still functional and could continue to serve in its current capacity for three more years. If the new equipment is purchased, the old equipment (which is fully depreciated) can be sold for \$50,000 now but will be worthless in three years. The new equipment will cost \$400,000, including shipping and installation. If the new equipment is purchased, the company's revenues will increase by \$175,000 and costs by \$25,000 for each year of the equipment's 3-year life. There is no expected change in net working capital.

The new machine will be depreciated using a 3-year MACRS schedule (note: the 3-year MACRS schedule is 33.0% in the first year, 45% in the second year, 15% in the third year, and 7% in the fourth year). At the end of the life of the new equipment (i.e., in three years), Malfoy expects that it can be sold for \$10,000. The firm has a marginal tax rate of 40%, and the cost of capital on this project is 20%. In calculation of tax liabilities, Malfoy assumes that the firm is profitable, so any losses on this project can be offset against profits elsewhere in the firm. Malfoy calculates a project NPV of -\$62,574.

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The initial outlay for the project is *closest* to:

- A) \$350,000.
- B) \$370,000.
- C) \$400,000.

Question #26 of 60

Question ID: 692307

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The after-tax operating cash flow for the first year of operations with the new equipment (excluding the initial outlay) is *closest* to:

- A) \$10,800.

B) \$132,000.

C) \$142,800.

Question #27 of 60

Question ID: 692308

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What is the effect of taxes on the operating cash flow in year 2?

A) Decrease by \$7,200.

B) Increase by \$7,200.

C) Increase by \$12,000.

Question #28 of 60

Question ID: 692309

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The combined after-tax operating cash flow and terminal year after-tax nonoperating cash flow in year 3 is *closest* to:

- A) \$131,200.
- B) \$151,200.
- C) \$152,200.

Question #29 of 60

Question ID: 691286

Henke Malfoy, CFA, is an analyst with a major manufacturing firm. Currently, he is evaluating the replacement of some production equipment. The old machine is still functional and could continue to serve in its current capacity for three more years. If the new equipment is purchased, the old equipment (which is fully depreciated) can be sold for \$50,000 now but will be worthless in three years. The new equipment will cost \$400,000, including shipping and installation. If the new equipment is purchased, the company's revenues will increase by \$175,000 and costs by \$25,000 for each year of the equipment's 3-year life. There is no expected change in net working capital.

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Suppose for this question only that Malfoy has forgotten to reflect a decrease in inventory that will result at the beginning of the project. The *most likely* effect on estimated project NPV of this error:

- A) is to overestimate NPV.
- B) is to underestimate NPV.
- C) depends on whether the inventory is assumed to build back up to its previous level at the end of the project or the decrease in inventory is permanent.

Question #30 of 60

Question ID: 691287

Henke Malfoy, CFA, is an analyst with a major manufacturing firm. Currently, he is evaluating the replacement of some production equipment. The old machine is still functional and could continue to serve in its current capacity for three more years. If the new equipment is purchased, the old equipment (which is fully depreciated) can be sold for \$50,000 now but will be worthless in three years. The new equipment will cost \$400,000, including shipping and installation. If the new equipment is purchased, the company's revenues will increase by \$175,000 and costs by \$25,000 for each year of the equipment's 3-year life. There is no expected change in net working capital.

The new machine will be depreciated using a 3-year MACRS schedule (note: the 3-year MACRS schedule is 33.0% in the first year, 45% in the second year, 15% in the third year, and 7% in the fourth year). At the end of the life of the new equipment (i.e., in three years), Malfoy expects that it can be sold for \$10,000. The firm has a marginal tax rate of 40%, and the cost of capital on this project is 20%. In calculation of tax liabilities, Malfoy assumes that the firm is profitable, so any losses on this project can be offset against profits elsewhere in the firm. Malfoy calculates a project NPV of -\$62,574.

What is the IRR based on Malfoy's NPV estimate, and should the project be accepted or rejected in order to maximize shareholder value?

IRR

Project

- A) 8.8% Accept
- B) 8.8% Reject
- C) 21.5% Accept

Question #31 of 60

Question ID: 691294

Questions 91-96 relate to Yi Tang.

Yi Tang updates several economic parameters monthly for use by the analysts and the portfolio managers at her firm. If economic conditions warrant, she will update the parameters even more frequently. As a result of an economic slowdown, she is going through this process now.

The firm has been using an equity risk premium of 5.2%, derived using historical estimates. By comparing the yields on nominal bonds and real bonds, Tang estimates the expected inflation rate to be 2.6%. She expects real domestic growth to be 3.0%. Tang believes that the markets are currently overvalued by 3%. The yield on the market index is 1.7%, and the expected risk-free rate of return is 2.7%.

Elizabeth Trotter, one of the firm's portfolio Managers, asks Tang about the effects of survivorship bias on estimates of the equity risk premium. Trotter asks, "Which method is most susceptible to this bias: historical estimates, Gordon growth model estimates, or survey estimates?"

Tang wishes to estimate the required rate of return for Northeast Electric (NE) using the Capital Asset Pricing Model (CAPM) and the Fama-French model. She uses the following information to accomplish this:

<i>Factor</i>	<i>Risk Premium</i>	<i>Factor Sensitivity</i>
Market	5.2%	0.83 (historical)
Size	3.2%	-0.76
Value	5.4%	-0.04
Liquidity	1.1%	0.20

Trotter has one final question for Tang. Trotter says, "We need to estimate the equity beta for VixPRO, which is a private company that is not publicly traded. We have identified a publicly traded company that has similar operating characteristics to VixPRO, and we have estimated the beta for that company using regression analysis. We used the return on the public company as the dependent variable and the return on the market index as the independent variable. What steps do I need to take to find the beta for VixPRO equity? The companies have different debt/equity ratios. The debt of both companies is very low risk, and I believe I can ignore taxes."

.....

The estimate of the equity risk premium using the Ibbotson-Chen model given the estimates determined by Tang is *closest* to:

- A) 1.5%.
- B) 4.2%.
- C) 4.7%.

Question #32 of 60

Question ID: 691295

Yi Tang updates several economic parameters monthly for use by the analysts and the portfolio managers at her firm. If economic conditions warrant, she will update the parameters even more frequently. As a result of an economic slowdown, she is going through this process now.

The firm has been using an equity risk premium of 5.2%, derived using historical estimates. By comparing the yields on nominal bonds and real bonds, Tang estimates the expected inflation rate to be 2.6%. She expects real domestic growth to be 3.0%. Tang believes that the markets are currently overvalued by 3%. The yield on the market index is 1.7%, and the expected risk-free rate of return is 2.7%.

Elizabeth Trotter, one of the firm's portfolio Managers, asks Tang about the effects of survivorship bias on estimates of the equity risk premium. Trotter asks, "Which method is most susceptible to this bias: historical estimates, Gordon growth model estimates, or survey estimates?"

Tang wishes to estimate the required rate of return for Northeast Electric (NE) using the Capital Asset Pricing Model (CAPM) and the Fama-French model. She uses the following information to accomplish this:

<i>Factor</i>	<i>Risk Premium</i>	<i>Factor Sensitivity</i>
Market	5.2%	0.83 (historical)
Size	3.2%	-0.76
Value	5.4%	-0.04
Liquidity	1.1%	0.20

Trotter has one final question for Tang. Trotter says, "We need to estimate the equity beta for VixPRO, which is a private company that is not publicly traded. We have identified a publicly traded company that has similar operating characteristics to VixPRO, and we have estimated the beta for that company using regression analysis. We used the return on the public company as the dependent variable and the return on the market index as the independent variable. What steps do I need to take to find the beta for VixPRO equity? The companies have different debt/equity ratios. The debt of both companies is very

low risk, and I believe I can ignore taxes."

.....

The *best* response to Trotter's question about survivorship bias is:

- A) survey estimates.
 - B) Gordon model estimates.
 - C) historical estimates.
-

Question #33 of 60

Question ID: 691296

Yi Tang updates several economic parameters monthly for use by the analysts and the portfolio managers at her firm. If economic conditions warrant, she will update the parameters even more frequently. As a result of an economic slowdown, she is going through this process now.

The firm has been using an equity risk premium of 5.2%, derived using historical estimates. By comparing the yields on nominal bonds and real bonds, Tang estimates the expected inflation rate to be 2.6%. She expects real domestic growth to be 3.0%. Tang believes that the markets are currently overvalued by 3%. The yield on the market index is 1.7%, and the expected risk-free rate of return is 2.7%.

Elizabeth Trotter, one of the firm's portfolio Managers, asks Tang about the effects of survivorship bias on estimates of the equity risk premium. Trotter asks, "Which method is most susceptible to this bias: historical estimates, Gordon growth model estimates, or survey estimates?"

Tang wishes to estimate the required rate of return for Northeast Electric (NE) using the Capital Asset Pricing Model (CAPM) and the Fama-French model. She uses the following information to accomplish this:

<i>Factor</i>	<i>Risk Premium</i>	<i>Factor Sensitivity</i>
Market	5.2%	0.83 (historical)
Size	3.2%	-0.76
Value	5.4%	-0.04
Liquidity	1.1%	0.20

Trotter has one final question for Tang. Trotter says, "We need to estimate the equity beta for VixPRO, which is a private company that is not publicly traded. We have identified a publicly traded company that has similar operating characteristics to VixPRO, and we have estimated the beta for that company using regression analysis. We used the return on the public company as the dependent variable and the return on the market index as the independent variable. What steps do I need to take to find the beta for VixPRO equity? The companies have different debt/equity ratios. The debt of both companies is very low risk, and I believe I can ignore taxes."

.....

The required rate of return for NE estimated with the CAPM is *closest* to:

- A) 5.7%.
- B) 6.0%.
- C) 7.0%.

Question #34 of 60

Question ID: 691297

Yi Tang updates several economic parameters monthly for use by the analysts and the portfolio managers at her firm. If economic conditions warrant, she will update the parameters even more frequently. As a result of an economic slowdown, she is going through this process now.

The firm has been using an equity risk premium of 5.2%, derived using historical estimates. By comparing the yields on nominal bonds and real bonds, Tang estimates the expected inflation rate to be 2.6%. She expects real domestic growth to be 3.0%. Tang believes that the markets are currently overvalued by 3%. The yield on the market index is 1.7%, and the expected risk-free rate of return is 2.7%.

Elizabeth Trotter, one of the firm's portfolio Managers, asks Tang about the effects of survivorship bias on estimates of the equity risk premium. Trotter asks, "Which method is most susceptible to this bias: historical estimates, Gordon growth model estimates, or survey estimates?"

Tang wishes to estimate the required rate of return for Northeast Electric (NE) using the Capital Asset Pricing Model (CAPM) and the Fama-French model. She uses the following information to accomplish this:

<i>Factor</i>	<i>Risk Premium</i>	<i>Factor Sensitivity</i>
Market	5.2%	0.83 (historical)
Size	3.2%	-0.76
Value	5.4%	-0.04
Liquidity	1.1%	0.20

Trotter has one final question for Tang. Trotter says, "We need to estimate the equity beta for VixPRO, which is a private company that is not publicly traded. We have identified a publicly traded company that has similar operating characteristics to VixPRO, and we have estimated the beta for that company using regression analysis. We used the return on the public company as the dependent variable and the return on the market index as the independent variable. What steps do I need to take to find the beta for VixPRO equity? The companies have different debt/equity ratios. The debt of both companies is very low risk, and I believe I can ignore taxes."

.....

The required rate of return for NE estimated with the Fama-French model is *closest* to:

- A) 4.4%.
- B) 4.7%.
- C) 9.0%.

Question #35 of 60

Question ID: 691298

Yi Tang updates several economic parameters monthly for use by the analysts and the portfolio managers at her firm. If economic conditions warrant, she will update the parameters even more frequently. As a result of an economic slowdown, she is going through this process now.

The firm has been using an equity risk premium of 5.2%, derived using historical estimates. By comparing the yields on nominal bonds and real bonds, Tang estimates the expected inflation rate to be 2.6%. She expects real domestic growth to be 3.0%. Tang believes that the markets are currently overvalued by 3%. The yield on the market index is 1.7%, and the expected risk-free rate of return is 2.7%.

Elizabeth Trotter, one of the firm's portfolio Managers, asks Tang about the effects of survivorship bias on estimates of the equity risk premium. Trotter asks, "Which method is most susceptible to this bias: historical estimates, Gordon growth model estimates, or survey estimates?"

Tang wishes to estimate the required rate of return for Northeast Electric (NE) using the Capital Asset Pricing Model (CAPM) and the Fama-French model. She uses the following information to accomplish this:

<i>Factor</i>	<i>Risk Premium</i>	<i>Factor Sensitivity</i>
Market	5.2%	0.83 (historical)
Size	3.2%	-0.76
Value	5.4%	-0.04
Liquidity	1.1%	0.20

Trotter has one final question for Tang. Trotter says, "We need to estimate the equity beta for VixPRO, which is a private company that is not publicly traded. We have identified a publicly traded company that has similar operating characteristics to VixPRO, and we have estimated the beta for that company using regression analysis. We used the return on the public company as the dependent variable and the return on the market index as the independent variable. What steps do I need to take to find the beta for VixPRO equity? The companies have different debt/equity ratios. The debt of both companies is very low risk, and I believe I can ignore taxes."

Using the Blume method, the adjusted beta computed by Tang would be *closest* to:

- A) 0.90.
- B) 0.96.
- C) 1.03.

Question #36 of 60

Question ID: 691299

Yi Tang updates several economic parameters monthly for use by the analysts and the portfolio managers at her firm. If

economic conditions warrant, she will update the parameters even more frequently. As a result of an economic slowdown, she is going through this process now.

The firm has been using an equity risk premium of 5.2%, derived using historical estimates. By comparing the yields on nominal bonds and real bonds, Tang estimates the expected inflation rate to be 2.6%. She expects real domestic growth to be 3.0%. Tang believes that the markets are currently overvalued by 3%. The yield on the market index is 1.7%, and the expected risk-free rate of return is 2.7%.

Elizabeth Trotter, one of the firm's portfolio Managers, asks Tang about the effects of survivorship bias on estimates of the equity risk premium. Trotter asks, "Which method is most susceptible to this bias: historical estimates, Gordon growth model estimates, or survey estimates?"

Tang wishes to estimate the required rate of return for Northeast Electric (NE) using the Capital Asset Pricing Model (CAPM) and the Fama-French model. She uses the following information to accomplish this:

<i>Factor</i>	<i>Risk Premium</i>	<i>Factor Sensitivity</i>
Market	5.2%	0.83 (historical)
Size	3.2%	-0.76
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Liquidity	1.1%	0.20

Trotter has one final question for Tang. Trotter says, "We need to estimate the equity beta for VixPRO, which is a private company that is not publicly traded. We have identified a publicly traded company that has similar operating characteristics to VixPRO, and we have estimated the beta for that company using regression analysis. We used the return on the public company as the dependent variable and the return on the market index as the independent variable. What steps do I need to take to find the beta for VixPRO equity? The companies have different debt/equity ratios. The debt of both companies is very low risk, and I believe I can ignore taxes."

What response should Tang give Trotter about estimating the equity beta for VixPRO?

- A)** Estimate the beta for VixPRO by regressing the returns for VixPRO against an index of non-traded equity market securities.
- B)** Estimate the VixPRO beta by multiplying the public company beta times the ratio of the equity risk premium of the market to the risk-free rate of return.
- C)** Estimate the unlevered beta for the public company based on its debt/equity ratio. Then, use that unlevered beta to estimate the equity beta for VixPRO based on the VixPRO debt/equity ratio.

Question #37 of 60

Question ID: 691308

Questions 97-102 relate to Shirley Nolte.

Shirley Nolte, CFA, is a portfolio manager for McHugh Investments. Her portfolio includes 5,000 shares of Pioneer common stock (ticker symbol PNER), which is currently trading at \$40 per share and does not pay any dividends. Pioneer is an energy and petrochemical business that operates or markets its products in the United States, Canada, Mexico, and over 100 other countries around the world. Pioneer's core business is the exploration, production, and transportation of crude oil and natural gas. Pioneer also manufactures and markets petroleum products, basic petrochemicals, and a variety of specialty products.

Nolte would like to fully hedge her exposure to price fluctuations in Pioneer common stock over the next 90 days. She determines that the continuously compounded risk-free rate is 5%. She also gathers some information on exchange-traded options available on Pioneer stock. This data is shown in Exhibit 1.

Exhibit 1: Exchange-Traded Options on Pioneer Stock

<i>Maturity</i>	<i>Exercise Price</i>	<i>Call Option Price</i>	<i>Call Option Delta</i>	<i>Put Option Price</i>
1-month	\$40	\$2.84	0.54	\$2.67
3-month	\$40	\$5.00	0.58	\$4.50
6-month	\$40	\$7.14	0.61	\$6.15
9-month	\$40	\$8.81	0.63	\$7.34

She also concludes that the 9-month put option is mispriced relative to the 9-month call option, and an arbitrage opportunity is possible, but that the 3-month put option is correctly priced relative to its comparable call option. She also estimates the gamma of the 3-month call option to be 0.023. Nolte is concerned about gamma risk of any hedging strategy she uses.

One year at-the-money calls on the stock of Delpha (current price \$60) are trading at \$6.90. Nolte believes that over the next year, the stock could either appreciate or depreciate by 15%.

Which of the following positions will *best* delta hedge Nolte's long position in Pioneer?

- A) Short 9,259 1-month call options.
- B) Short 8,197 3-month call options.
- C) Short 7,937 6-month call options.

Question #38 of 60

Question ID: 691309

Shirley Nolte, CFA, is a portfolio manager for McHugh Investments. Her portfolio includes 5,000 shares of Pioneer common stock (ticker symbol PNER), which is currently trading at \$40 per share and does not pay any dividends. Pioneer is an energy and petrochemical business that operates or markets its products in the United States, Canada, Mexico, and over 100 other countries around the world. Pioneer's core business is the exploration, production, and transportation of crude oil and natural gas. Pioneer also manufactures and markets petroleum products, basic petrochemicals, and a variety of specialty products.

Nolte would like to fully hedge her exposure to price fluctuations in Pioneer common stock over the next 90 days. She determines that the continuously compounded risk-free rate is 5%. She also gathers some information on exchange-traded options available on Pioneer stock. This data is shown in Exhibit 1.

Exhibit 1: Exchange-Traded Options on Pioneer Stock

<i>Maturity</i>	<i>Exercise Price</i>	<i>Call Option Price</i>	<i>Call Option Delta</i>	<i>Put Option Price</i>
1-month	\$40	\$2.84	0.54	\$2.67
3-month	\$40	\$5.00	0.58	\$4.50
6-month	\$40	\$7.14	0.61	\$6.15
9-month	\$40	\$8.81	0.63	\$7.34

She also concludes that the 9-month put option is mispriced relative to the 9-month call option, and an arbitrage opportunity is possible, but that the 3-month put option is correctly priced relative to its comparable call option. She also estimates the gamma of the 3-month call option to be 0.023. Nolte is concerned about gamma risk of any hedging strategy she uses.

One year at-the-money calls on the stock of Delpha (current price \$60) are trading at \$6.90. Nolte believes that over the next year, the stock could either appreciate or depreciate by 15%.

.....

If Nolte hedges the position with the 3-month call options, she:

- A)** will have to continuously rebalance the position in order to maintain the delta hedge.
- B)** can offset the cost of the hedge and maintain the hedged position by buying an equivalent amount of 3-month put options.
- C)** will perfectly hedge the position over the 90-day investment horizon and won't need to rebalance the position only if the stock price of Pioneer remains at \$40 for 90 days.

Question #39 of 60

Question ID: 691310

Shirley Nolte, CFA, is a portfolio manager for McHugh Investments. Her portfolio includes 5,000 shares of Pioneer common stock (ticker symbol PNER), which is currently trading at \$40 per share and does not pay any dividends. Pioneer is an energy and petrochemical business that operates or markets its products in the United States, Canada, Mexico, and over 100 other countries around the world. Pioneer's core business is the exploration, production, and transportation of crude oil and natural gas. Pioneer also manufactures and markets petroleum products, basic petrochemicals, and a variety of specialty products.

Nolte would like to fully hedge her exposure to price fluctuations in Pioneer common stock over the next 90 days. She determines that the continuously compounded risk-free rate is 5%. She also gathers some information on exchange-traded options available on Pioneer stock. This data is shown in Exhibit 1.

Exhibit 1: Exchange-Traded Options on Pioneer Stock

<i>Maturity</i>	<i>Exercise Price</i>	<i>Call Option Price</i>	<i>Call Option Delta</i>	<i>Put Option Price</i>
1-month	\$40	\$2.84	0.54	\$2.67
3-month	\$40	\$5.00	0.58	\$4.50

Maturity	Exercise Price	Call Option Price	Call Option Delta	Put Option Price
3-month	\$40	\$5.00	0.58	\$4.50
6-month	\$40	\$7.14	0.61	\$6.15
9-month	\$40	\$8.81	0.63	\$7.34

She also concludes that the 9-month put option is mispriced relative to the 9-month call option, and an arbitrage opportunity is possible, but that the 3-month put option is correctly priced relative to its comparable call option. She also estimates the gamma of the 3-month call option to be 0.023. Nolte is concerned about gamma risk of any hedging strategy she uses.

One year at-the-money calls on the stock of Delpha (current price \$60) are trading at \$6.90. Nolte believes that over the next year, the stock could either appreciate or depreciate by 15%.

Violation of which BSM assumption is *most likely* to lead to gamma risk?

- A) The volatility of the returns on the underlying asset is constant and known.
- B) Markets are frictionless; there are no transaction costs.
- C) The price of the underlying changes smoothly.

Question #40 of 60

Question ID: 691311

Shirley Nolte, CFA, is a portfolio manager for McHugh Investments. Her portfolio includes 5,000 shares of Pioneer common stock (ticker symbol PNER), which is currently trading at \$40 per share and does not pay any dividends. Pioneer is an energy and petrochemical business that operates or markets its products in the United States, Canada, Mexico, and over 100 other countries around the world. Pioneer's core business is the exploration, production, and transportation of crude oil and natural gas. Pioneer also manufactures and markets petroleum products, basic petrochemicals, and a variety of specialty products.

Nolte would like to fully hedge her exposure to price fluctuations in Pioneer common stock over the next 90 days. She determines that the continuously compounded risk-free rate is 5%. She also gathers some information on exchange-traded options available on Pioneer stock. This data is shown in Exhibit 1.

Exhibit 1: Exchange-Traded Options on Pioneer Stock

Maturity	Exercise Price	Call Option Price	Call Option Delta	Put Option Price
1-month	\$40	\$2.84	0.54	\$2.67
3-month	\$40	\$5.00	0.58	\$4.50
6-month	\$40	\$7.14	0.61	\$6.15
9-month	\$40	\$8.81	0.63	\$7.34

She also concludes that the 9-month put option is mispriced relative to the 9-month call option, and an arbitrage opportunity is possible, but that the 3-month put option is correctly priced relative to its comparable call option. She also estimates the gamma of the 3-month call option to be 0.023. Nolte is concerned about gamma risk of any hedging strategy she uses.

One year at-the-money calls on the stock of Delpha (current price \$60) are trading at \$6.90. Nolte believes that over the next

year, the stock could either appreciate or depreciate by 15%.

Assuming that Nolte establishes a delta hedge on Pioneer stock using 3-month call options, the gamma of this delta hedged portfolio would *most likely* be:

- A) positive.
- B) negative and would increase with the stock's price.
- C) negative and would decrease as the stock's price increases.

Question #41 of 60

Question ID: 691305

Shirley Nolte, CFA, is a portfolio manager for McHugh Investments. Her portfolio includes 5,000 shares of Pioneer common stock (ticker symbol PNER), which is currently trading at \$40 per share and does not pay any dividends. Pioneer is an energy and petrochemical business that operates or markets its products in the United States, Canada, Mexico, and over 100 other countries around the world. Pioneer's core business is the exploration, production, and transportation of crude oil and natural gas. Pioneer also manufactures and markets petroleum products, basic petrochemicals, and a variety of specialty products.

Nolte would like to fully hedge her exposure to price fluctuations in Pioneer common stock over the next 90 days. She determines that the continuously compounded risk-free rate is 5%. She also gathers some information on exchange-traded options available on Pioneer stock. This data is shown in Exhibit 1.

Exhibit 1: Exchange-Traded Options on Pioneer Stock

<i>Maturity</i>	<i>Exercise Price</i>	<i>Call Option Price</i>	<i>Call Option Delta</i>	<i>Put Option Price</i>
1-month	\$40	\$2.84	0.54	\$2.67
3-month	\$40	\$5.00	0.58	\$4.50
6-month	\$40	\$7.14	0.61	\$6.15
9-month	\$40	\$8.81	0.63	\$7.34

She also concludes that the 9-month put option is mispriced relative to the 9-month call option, and an arbitrage opportunity is possible, but that the 3-month put option is correctly priced relative to its comparable call option. She also estimates the gamma of the 3-month call option to be 0.023. Nolte is concerned about gamma risk of any hedging strategy she uses.

One year at-the-money calls on the stock of Delpha (current price \$60) are trading at \$6.90. Nolte believes that over the next year, the stock could either appreciate or depreciate by 15%.

Is Nolte correct in her analysis of the relative pricing of the 3-month put option and the 9-month put option?

- A) Nolte is correct on both options.
- B) Nolte is only correct on the 3-month option.

C) Nolte is only correct on the 9-month option.

Question #42 of 60

Question ID: 692312

Shirley Nolte, CFA, is a portfolio manager for McHugh Investments. Her portfolio includes 5,000 shares of Pioneer common stock (ticker symbol PNER), which is currently trading at \$40 per share and does not pay any dividends. Pioneer is an energy and petrochemical business that operates or markets its products in the United States, Canada, Mexico, and over 100 other countries around the world. Pioneer's core business is the exploration, production, and transportation of crude oil and natural gas. Pioneer also manufactures and markets petroleum products, basic petrochemicals, and a variety of specialty products.

Nolte would like to fully hedge her exposure to price fluctuations in Pioneer common stock over the next 90 days. She determines that the continuously compounded risk-free rate is 5%. She also gathers some information on exchange-traded options available on Pioneer stock. This data is shown in Exhibit 1.

Exhibit 1: Exchange-Traded Options on Pioneer Stock

Maturity	Exercise Price	Call Option	Call Option	Put Option
		Price	Delta	Price
1-month	\$40	\$2.84	0.54	\$2.67
3-month	\$40	\$5.00	0.58	\$4.50
6-month	\$40	\$7.14	0.61	\$6.15
9-month	\$40	\$8.81	0.63	\$7.34

She also concludes that the 9-month put option is mispriced relative to the 9-month call option, and an arbitrage opportunity is possible, but that the 3-month put option is correctly priced relative to its comparable call option. She also estimates the gamma of the 3-month call option to be 0.023. Nolte is concerned about gamma risk of any hedging strategy she uses.

One year at-the-money calls on the stock of Delpha (current price \$60) are trading at \$6.90. Nolte believes that over the next year, the stock could either appreciate or depreciate by 15%.

For this question only, assume that the periodically compounded risk-free rate is 5%. An arbitrage profit can *most likely* be earned by:

- A) buying Delpha calls and shorting Delpha stock.
- B) buying Delpha stock and Delpha calls.
- C) buying Delpha stock and writing Delpha calls.

Question #43 of 60

Question ID: 691300

Questions 103-108 relate to Trent Black.

Trent Black is a government fixed-income portfolio manager, and on January 1, he holds \$30 million of fixed-rate, semi-annual pay notes. Black is considering entering into a 2-year, \$30 million semi-annual pay interest rate swap as the fixed-rate payer. He must first determine the swap rate. Black notes the term structure shown in Figure 1:

Figure 1: Current Term Structure

<u>Days</u>	<u>Annual Rate</u> (%)	<u>Discount</u> Factor
180	3.25	0.9840
360	3.35	0.9676
540	3.60	0.9488
720	3.85	0.9285

Black is also evaluating receiver and payer swaptions on the same \$30 million interest rate swap. The swaptions are European-style swaptions that mature in 240 days. Black anticipates a decline in interest rates and would like to use the swaptions to profit from his interest rate forecast.

Black is concerned about the value of a two-year semiannual pay fixed, receive equity swap the firm entered into six months ago (first settlement just occurred). The fixed rate was set at 3% and the equity index was at 1500 at inception. The index is currently at 1700 and the notional principal is \$5 million.

On May 1, after 120 days, Black is asked to determine the value of the 2-year, \$30 million swap. The term structure after 120 days is:

<u>Days</u>	<u>Annual Rate</u> (%)	<u>Discount</u> Factor
30	3.21	0.9973
60	3.31	0.9945
180	3.66	0.9820
240	3.69	0.9760
360	4.21	0.9596
420	4.42	0.9510
480	4.69	0.9411
540	4.74	0.9336
600	4.89	0.9246
720	5.00	0.9091

The annualized fixed rate for the \$30 million swap on January 1 is *closest* to:

- A) 3.73%.
- B) 3.80%.
- C) 3.91%.

Question #44 of 60

Question ID: 691301

Trent Black is a government fixed-income portfolio manager, and on January 1, he holds \$30 million of fixed-rate, semi-annual pay notes. Black is considering entering into a 2-year, \$30 million semi-annual pay interest rate swap as the fixed-rate payer. He must first determine the swap rate. Black notes the term structure shown in Figure 1:

Figure 1: Current Term Structure

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Black is also evaluating receiver and payer swaptions on the same \$30 million interest rate swap. The swaptions are European-style swaptions that mature in 240 days. Black anticipates a decline in interest rates and would like to use the swaptions to profit from his interest rate forecast.

Black is concerned about the value of a two-year semiannual pay fixed, receive equity swap the firm entered into six months ago (first settlement just occurred). The fixed rate was set at 3% and the equity index was at 1500 at inception. The index is currently at 1700 and the notional principal is \$5 million.

On May 1, after 120 days, Black is asked to determine the value of the 2-year, \$30 million swap. The term structure after 120 days is:

<u>Days</u>	<u>Annual Rate</u> (%)	<u>Discount</u> Factor
30	3.21	0.9973
60	3.31	0.9945
180	3.66	0.9820
240	3.69	0.9760
360	4.21	0.9596
420	4.42	0.9510
480	4.69	0.9411
540	4.74	0.9336
600	4.89	0.9246
720	5.00	0.9091

For this question only, assume the annualized fixed rate on the \$30 million swap is 3.80%. The amount of the first net payment

due on this swap is *closest* to:

- A) \$82,500.
- B) \$165,000.
- C) \$285,000.

Question #45 of 60

Question ID: 691302

Trent Black is a government fixed-income portfolio manager, and on January 1, he holds \$30 million of fixed-rate, semi-annual pay notes. Black is considering entering into a 2-year, \$30 million semi-annual pay interest rate swap as the fixed-rate payer. He must first determine the swap rate. Black notes the term structure shown in Figure 1:

Figure 1: Current Term Structure

<u>Days</u>	<u>Annual Rate</u> (%)	<u>Discount</u> Factor
180	3.25	0.9840
360	3.35	0.9676
540	3.60	0.9488
720	3.85	0.9285

Black is also evaluating receiver and payer swaptions on the same \$30 million interest rate swap. The swaptions are European-style swaptions that mature in 240 days. Black anticipates a decline in interest rates and would like to use the swaptions to profit from his interest rate forecast.

Black is concerned about the value of a two-year semiannual pay fixed, receive equity swap the firm entered into six months ago (first settlement just occurred). The fixed rate was set at 3% and the equity index was at 1500 at inception. The index is currently at 1700 and the notional principal is \$5 million.

On May 1, after 120 days, Black is asked to determine the value of the 2-year, \$30 million swap. The term structure after 120 days is:

<u>Days</u>	<u>Annual Rate</u> (%)	<u>Discount</u> Factor
30	3.21	0.9973
60	3.31	0.9945
180	3.66	0.9820
240	3.69	0.9760
360	4.21	0.9596
420	4.42	0.9510
480	4.69	0.9411
540	4.74	0.9336

600	4.89	0.9246
720	5.00	0.9091

One hundred twenty days after issue, the value of a 2-year, semi-annual fixed rate bond and the value of a 2-year, semi-annual floating rate note (based on \$1 of notional principal), assuming the annualized fixed rate is 3.80%, are *closest* to:

- A) \$0.98190 fixed and \$0.99970 floating.
- B) \$0.99000 fixed and \$1.01000 floating.
- C) \$0.99768 fixed and \$1.01066 floating.

Question #46 of 60

Question ID: 691303

Trent Black is a government fixed-income portfolio manager, and on January 1, he holds \$30 million of fixed-rate, semi-annual pay notes. Black is considering entering into a 2-year, \$30 million semi-annual pay interest rate swap as the fixed-rate payer. He must first determine the swap rate. Black notes the term structure shown in Figure 1:

Figure 1: Current Term Structure

<u>Days</u>	<u>Annual Rate</u> (%)	<u>Discount</u> Factor
180	3.25	0.9840
360	3.35	0.9676
540	3.60	0.9488
720	3.85	0.9285

Black is also evaluating receiver and payer swaptions on the same \$30 million interest rate swap. The swaptions are European-style swaptions that mature in 240 days. Black anticipates a decline in interest rates and would like to use the swaptions to profit from his interest rate forecast.

Black is concerned about the value of a two-year semiannual pay fixed, receive equity swap the firm entered into six months ago (first settlement just occurred). The fixed rate was set at 3% and the equity index was at 1500 at inception. The index is currently at 1700 and the notional principal is \$5 million.

On May 1, after 120 days, Black is asked to determine the value of the 2-year, \$30 million swap. The term structure after 120 days is:

<u>Days</u>	<u>Annual Rate</u> (%)	<u>Discount</u> Factor
30	3.21	0.9973
60	3.31	0.9945
180	3.66	0.9820
240	3.60	0.9760

240	3.09	0.9700
360	4.21	0.9596
420	4.42	0.9510
480	4.69	0.9411
540	4.74	0.9336
600	4.89	0.9246
720	5.00	0.9091

For this question only, and assuming the value of the fixed-rate bond and floating-rate note are 0.99000 and 1.01000 (per \$1 of notional principal), respectively, what is the payment required to terminate the \$30 million swap, and which party will make the payment?

- A) \$600,000 paid by the floating-rate payer.
- B) \$1,200,000 paid by the fixed-rate payer.
- C) \$600,000 paid by the floating-rate payer, and \$1,200,000 paid by the fixed-rate payer.

Question #47 of 60

Question ID: 691307

Trent Black is a government fixed-income portfolio manager, and on January 1, he holds \$30 million of fixed-rate, semi-annual pay notes. Black is considering entering into a 2-year, \$30 million semi-annual pay interest rate swap as the fixed-rate payer. He must first determine the swap rate. Black notes the term structure shown in Figure 1:

Figure 1: Current Term Structure

<u>Days</u>	<u>Annual Rate</u> (%)	<u>Discount</u> Factor
180	3.25	0.9840
360	3.35	0.9676
540	3.60	0.9488
720	3.85	0.9285

Black is also evaluating receiver and payer swaptions on the same \$30 million interest rate swap. The swaptions are European-style swaptions that mature in 240 days. Black anticipates a decline in interest rates and would like to use the swaptions to profit from his interest rate forecast.

Black is concerned about the value of a two-year semiannual pay fixed, receive equity swap the firm entered into six months ago (first settlement just occurred). The fixed rate was set at 3% and the equity index was at 1500 at inception. The index is currently at 1700 and the notional principal is \$5 million.

On May 1, after 120 days, Black is asked to determine the value of the 2-year, \$30 million swap. The term structure after 120 days is:

<u>Days</u>	<u>Annual Rate</u>	<u>Discount</u>
	<u>(%)</u>	<u>Factor</u>
30	3.21	0.9973
60	3.31	0.9945
180	3.66	0.9820
240	3.69	0.9760
360	4.21	0.9596
420	4.42	0.9510
480	4.69	0.9411
540	4.74	0.9336
600	4.89	0.9246
720	5.00	0.9091

Which position (long or short) should Black take in the payer and receiver swaptions based on his interest rate forecast?

Payer swaption Receiver swaption

- A) Short Short
- B) Long Short
- C) Short Long

Question #48 of 60

Question ID: 691304

Trent Black is a government fixed-income portfolio manager, and on January 1, he holds \$30 million of fixed-rate, semi-annual pay notes. Black is considering entering into a 2-year, \$30 million semi-annual pay interest rate swap as the fixed-rate payer. He must first determine the swap rate. Black notes the term structure shown in Figure 1:

Figure 1: Current Term Structure

<u>Days</u>	<u>Annual Rate</u>	<u>Discount</u>
	<u>(%)</u>	<u>Factor</u>
180	3.25	0.9840
360	3.35	0.9676
540	3.60	0.9488
720	3.85	0.9285

Black is also evaluating receiver and payer swaptions on the same \$30 million interest rate swap. The swaptions are European-style swaptions that mature in 240 days. Black anticipates a decline in interest rates and would like to use the swaptions to profit from his interest rate forecast.

swaps to profit from his interest rate forecast.

Black is concerned about the value of a two-year semiannual pay fixed, receive equity swap the firm entered into six months ago (first settlement just occurred). The fixed rate was set at 3% and the equity index was at 1500 at inception. The index is currently at 1700 and the notional principal is \$5 million.

On May 1, after 120 days, Black is asked to determine the value of the 2-year, \$30 million swap. The term structure after 120 days is:

<u>Days</u>	<u>Annual Rate</u> (%)	<u>Discount</u> Factor
30	3.21	0.9973
60	3.31	0.9945
180	3.66	0.9820
240	3.69	0.9760
360	4.21	0.9596
420	4.42	0.9510
480	4.69	0.9411
540	4.74	0.9336
600	4.89	0.9246
720	5.00	0.9091

Using the information in Figure 1, the value of the equity swap to the firm is *closest* to:

- A) \$19,230
- B) \$38,500
- C) \$705,167

Question #49 of 60

Question ID: 691312

Questions 109-114 relate to IGS.

The New York-based Irwin Goldreich Schmidt (IGS) is a mid-sized private equity firm with \$300 million capital raised from its investors. Amid a turbulent year, the firm has recently dropped its unsuccessful \$100 million bid for a Norwegian media company and is now aggressively searching for new venture or buyout investments in the Eurozone. After several months of intense search, IGS believes it identified two potential investments:

1. Sverig, a rapidly expanding Swedish start-up construction company.
2. L'Offre, a struggling French department store in existence since the late 19th Century.

Following several rounds of successful negotiations, IGS makes a \$20 million investment in Sverig and a \$100 million leveraged buyout investment in L'Offre, committing to an additional \$100 million for possible future capital drawdowns. It

leveraged buyout investment in L'Offre, committing to an additional \$100 million for possible future capital drawdowns. It retains all of Sverig's managers but replaces L'Offre's management team with experienced IGS managers, many of whom are former company senior executives.

IGS also sets up Sverig-L'Offre Private Equity Fund (SLPEF), a fund to manage both firms. The fund manager's compensation is set at 20% of profits net of fees. IGS also specifies that the manager's profits are calculated on the entire portfolio when portfolio value exceeds invested capital by 30%.

Despite the market's recent turbulence, Sverig's original founders are extremely optimistic and believe the firm could be sold for \$400 million in six years. To achieve this, they speculate the firm needs another capital infusion of \$40 million in four years in addition to the \$20 million capital investment today. Given the high risk of the firm, SLPEF's private equity investors decide that a discount rate of 40% for the first four years and 30% for the last two years is appropriate. The founders of Sverig want to hold 5 million shares.

.....

If total proceeds net of fees to SLPEF are worth \$180 million upon exit in a year, the fund's general partner (GP) under the total return using invested capital method would receive a compensation of:

- A) \$0.
- B) \$12 million.
- C) \$36 million.

Question #50 of 60

Question ID: 691315

The New York-based Irwin Goldreich Schmidt (IGS) is a mid-sized private equity firm with \$300 million capital raised from its investors. Amid a turbulent year, the firm has recently dropped its unsuccessful \$100 million bid for a Norwegian media company and is now aggressively searching for new venture or buyout investments in the Eurozone. After several months of intense search, IGS believes it identified two potential investments:

1. Sverig, a rapidly expanding Swedish start-up construction company.
2. L'Offre, a struggling French department store in existence since the late 19th Century.

Following several rounds of successful negotiations, IGS makes a \$20 million investment in Sverig and a \$100 million leveraged buyout investment in L'Offre, committing to an additional \$100 million for possible future capital drawdowns. It retains all of Sverig's managers but replaces L'Offre's management team with experienced IGS managers, many of whom are former company senior executives.

IGS also sets up Sverig-L'Offre Private Equity Fund (SLPEF), a fund to manage both firms. The fund manager's compensation is set at 20% of profits net of fees. IGS also specifies that the manager's profits are calculated on the entire portfolio when portfolio value exceeds invested capital by 30%.

Despite the market's recent turbulence, Sverig's original founders are extremely optimistic and believe the firm could be sold for \$400 million in six years. To achieve this, they speculate the firm needs another capital infusion of \$40 million in four years in addition to the \$20 million capital investment today. Given the high risk of the firm, SLPEF's private equity investors decide that a discount rate of 40% for the first four years and 30% for the last two years is appropriate. The founders of Sverig want to

that a discount rate of 40 % for the first four years and 30 % for the last two years is appropriate. The founders of Sverig want to hold 5 million shares.

.....

An appropriate equity valuation technique for Sverig and L'Offre, respectively, would be the:

<u>Sverig</u>	<u>L'Offre</u>
A) Relative value approach	Venture capital method
B) Venture capital method	DCF method
C) DCF method	Relative value approach

Question #51 of 60

Question ID: 691314

The New York-based Irwin Goldreich Schmidt (IGS) is a mid-sized private equity firm with \$300 million capital raised from its investors. Amid a turbulent year, the firm has recently dropped its unsuccessful \$100 million bid for a Norwegian media company and is now aggressively searching for new venture or buyout investments in the Eurozone. After several months of intense search, IGS believes it identified two potential investments:

1. Sverig, a rapidly expanding Swedish start-up construction company.
2. L'Offre, a struggling French department store in existence since the late 19th Century.

Following several rounds of successful negotiations, IGS makes a \$20 million investment in Sverig and a \$100 million leveraged buyout investment in L'Offre, committing to an additional \$100 million for possible future capital drawdowns. It retains all of Sverig's managers but replaces L'Offre's management team with experienced IGS managers, many of whom are former company senior executives.

IGS also sets up Sverig-L'Offre Private Equity Fund (SLPEF), a fund to manage both firms. The fund manager's compensation is set at 20% of profits net of fees. IGS also specifies that the manager's profits are calculated on the entire portfolio when portfolio value exceeds invested capital by 30%.

Despite the market's recent turbulence, Sverig's original founders are extremely optimistic and believe the firm could be sold for \$400 million in six years. To achieve this, they speculate the firm needs another capital infusion of \$40 million in four years in addition to the \$20 million capital investment today. Given the high risk of the firm, SLPEF's private equity investors decide that a discount rate of 40% for the first four years and 30% for the last two years is appropriate. The founders of Sverig want to hold 5 million shares.

.....

Common risk factor(s) faced by both IGS investors and the managers of the private equity firm is(are):

- A) market risk but not agency risk.
- B) agency risk but not market risk.
- C) both market and agency risk.

Question #52 of 60

Question ID: 691313

The New York-based Irwin Goldreich Schmidt (IGS) is a mid-sized private equity firm with \$300 million capital raised from its investors. Amid a turbulent year, the firm has recently dropped its unsuccessful \$100 million bid for a Norwegian media company and is now aggressively searching for new venture or buyout investments in the Eurozone. After several months of intense search, IGS believes it identified two potential investments:

1. Sverig, a rapidly expanding Swedish start-up construction company.
2. L'Offre, a struggling French department store in existence since the late 19th Century.

Following several rounds of successful negotiations, IGS makes a \$20 million investment in Sverig and a \$100 million leveraged buyout investment in L'Offre, committing to an additional \$100 million for possible future capital drawdowns. It retains all of Sverig's managers but replaces L'Offre's management team with experienced IGS managers, many of whom are former company senior executives.

IGS also sets up Sverig-L'Offre Private Equity Fund (SLPEF), a fund to manage both firms. The fund manager's compensation is set at 20% of profits net of fees. IGS also specifies that the manager's profits are calculated on the entire portfolio when portfolio value exceeds invested capital by 30%.

Despite the market's recent turbulence, Sverig's original founders are extremely optimistic and believe the firm could be sold for \$400 million in six years. To achieve this, they speculate the firm needs another capital infusion of \$40 million in four years in addition to the \$20 million capital investment today. Given the high risk of the firm, SLPEF's private equity investors decide that a discount rate of 40% for the first four years and 30% for the last two years is appropriate. The founders of Sverig want to hold 5 million shares.

.....

SLPEF's general partner's (GP's) share of fund profits, and management's right to sell their equity interest in the event of an acquisition, respectively, are called:

<u>Profits to the GP</u>	<u>Management's right to sell</u>
--------------------------	-----------------------------------

- | | |
|---------------------|------------------------------|
| A) Carried interest | Ratchet |
| B) Ratchet | Distribution waterfall |
| C) Carried interest | Tag-along, drag-along clause |

Question #53 of 60

Question ID: 691316

The New York-based Irwin Goldreich Schmidt (IGS) is a mid-sized private equity firm with \$300 million capital raised from its investors. Amid a turbulent year, the firm has recently dropped its unsuccessful \$100 million bid for a Norwegian media company and is now aggressively searching for new venture or buyout investments in the Eurozone. After several months of intense search, IGS believes it identified two potential investments:

1. Sverig, a rapidly expanding Swedish start-up construction company.
2. L'Offre, a struggling French department store in existence since the late 19th Century.

Following several rounds of successful negotiations, IGS makes a \$20 million investment in Sverig and a \$100 million leveraged buyout investment in L'Offre, committing to an additional \$100 million for possible future capital drawdowns. It retains all of Sverig's managers but replaces L'Offre's management team with experienced IGS managers, many of whom are former company senior executives.

IGS also sets up Sverig-L'Offre Private Equity Fund (SLPEF), a fund to manage both firms. The fund manager's compensation is set at 20% of profits net of fees. IGS also specifies that the manager's profits are calculated on the entire portfolio when portfolio value exceeds invested capital by 30%.

Despite the market's recent turbulence, Sverig's original founders are extremely optimistic and believe the firm could be sold for \$400 million in six years. To achieve this, they speculate the firm needs another capital infusion of \$40 million in four years in addition to the \$20 million capital investment today. Given the high risk of the firm, SLPEF's private equity investors decide that a discount rate of 40% for the first four years and 30% for the last two years is appropriate. The founders of Sverig want to hold 5 million shares.

.....

Sverig's post-money valuation at the first round of financing, using the NPV venture capital method, is *closest* to:

- A) \$61.61 million.
- B) \$50.08 million.
- C) \$51.20 million.

Question #54 of 60

Question ID: 691317

The New York-based Irwin Goldreich Schmidt (IGS) is a mid-sized private equity firm with \$300 million capital raised from its investors. Amid a turbulent year, the firm has recently dropped its unsuccessful \$100 million bid for a Norwegian media company and is now aggressively searching for new venture or buyout investments in the Eurozone. After several months of intense search, IGS believes it identified two potential investments:

1. Sverig, a rapidly expanding Swedish start-up construction company.
2. L'Offre, a struggling French department store in existence since the late 19th Century.

Following several rounds of successful negotiations, IGS makes a \$20 million investment in Sverig and a \$100 million leveraged buyout investment in L'Offre, committing to an additional \$100 million for possible future capital drawdowns. It

retains all of Sverig's managers but replaces L'Offre's management team with experienced IGS managers, many of whom are former company senior executives.

IGS also sets up Sverig-L'Offre Private Equity Fund (SLPEF), a fund to manage both firms. The fund manager's compensation is set at 20% of profits net of fees. IGS also specifies that the manager's profits are calculated on the entire portfolio when portfolio value exceeds invested capital by 30%.

Despite the market's recent turbulence, Sverig's original founders are extremely optimistic and believe the firm could be sold for \$400 million in six years. To achieve this, they speculate the firm needs another capital infusion of \$40 million in four years in addition to the \$20 million capital investment today. Given the high risk of the firm, SLPEF's private equity investors decide that a discount rate of 40% for the first four years and 30% for the last two years is appropriate. The founders of Sverig want to hold 5 million shares.

The appropriate stock price after the first-round of financing for Sverig's first-round investors is *closest* to:

- A) \$6.24.
- B) \$8.32.
- C) \$6.02.

Question #55 of 60

Question ID: 691908

Questions 115-120 relate to Millennium Investments and Richie Shepard.

Millennium Investments (MI), an investment advisory firm, provides asset allocation recommendations for its clients. Richie Shepard, senior analyst at MI, is using a two-factor macroeconomic model to evaluate a portfolio of two stocks: WMB and REL. The two factors in the model are surprises in inflation and in real GDP growth rate (both given in percentages). The portfolio is invested 60% in WMB. Factor sensitivity and other information for the two stocks are shown in Exhibit 1.

Exhibit 1: WMB and REL

Stock	$E(R)$	Inflation	GDP Growth Rate
WMB	9%	-2.2	+3.0
REL	10.8%	-1.0	+3.3

Another stock (not in the portfolio), PSL, has a factor sensitivity of -0.9 to inflation and +1.2 to GDP growth rate.

Shepard is also looking at evaluating three portfolios using a single-factor model. Information about the three portfolios is shown in Exhibit 2.

Exhibit 2: Portfolio Factor Sensitivity and Expected Return

Portfolio	Expected Return	Factor Sensitivity
X	0.10	1.00
Y	0.12	1.25

Z	0.15	1.50
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Shepard is meeting with a client to discuss inclusion of actively managed funds in that client's portfolio. To prepare for the meeting, Shepard prepares a presentation to illustrate the merits and risks of this change. Shepard cannot recall the term that is used to capture the sum of active factor risk and active specific risk.

Shepard feels that the economy is finally out of recession and poised for robust growth over the next three to five years.

Using the information in Exhibit 1, the expected return on the portfolio is *closest* to:

- A) 8.4%.
- B) 9.2%.
- C) 9.7%.

Question #56 of 60

Question ID: 691909

Millennium Investments (MI), an investment advisory firm, provides asset allocation recommendations for its clients. Richie Shepard, senior analyst at MI, is using a two-factor macroeconomic model to evaluate a portfolio of two stocks: WMB and REL. The two factors in the model are surprises in inflation and in real GDP growth rate (both given in percentages). The portfolio is invested 60% in WMB. Factor sensitivity and other information for the two stocks are shown in Exhibit 1.

Exhibit 1: WMB and REL

Stock	<i>E(R)</i>	<i>Inflation</i>	<i>GDP Growth Rate</i>
WMB	9%	-2.2	+3.0
REL	10.8%	-1.0	+3.3

Another stock (not in the portfolio), PSL, has a factor sensitivity of -0.9 to inflation and +1.2 to GDP growth rate.

Shepard is also looking at evaluating three portfolios using a single-factor model. Information about the three portfolios is shown in Exhibit 2.

Exhibit 2: Portfolio Factor Sensitivity and Expected Return

Portfolio	<i>Expected Return</i>	<i>Factor Sensitivity</i>
X	0.10	1.00
Y	0.12	1.25
Z	0.15	1.50

Shepard is meeting with a client to discuss inclusion of actively managed funds in that client's portfolio. To prepare for the meeting, Shepard prepares a presentation to illustrate the merits and risks of this change. Shepard cannot recall the term that is used to capture the sum of active factor risk and active specific risk.

Shepard feels that the economy is finally out of recession and poised for robust growth over the next three to five years.

Using information in Exhibit 1, the portfolio's sensitivity to inflation is *closest* to:

- A) -1.1.
- B) -1.7.
- C) -2.2.

Question #57 of 60

Question ID: 691910

Millennium Investments (MI), an investment advisory firm, provides asset allocation recommendations for its clients. Richie Shepard, senior analyst at MI, is using a two-factor macroeconomic model to evaluate a portfolio of two stocks: WMB and REL. The two factors in the model are surprises in inflation and in real GDP growth rate (both given in percentages). The portfolio is invested 60% in WMB. Factor sensitivity and other information for the two stocks are shown in Exhibit 1.

Exhibit 1: WMB and REL

Stock	<i>E(R)</i>	<i>Inflation</i>	<i>GDP Growth Rate</i>
WMB	9%	-2.2	+3.0
REL	10.8%	-1.0	+3.3

Another stock (not in the portfolio), PSL, has a factor sensitivity of -0.9 to inflation and +1.2 to GDP growth rate.

Shepard is also looking at evaluating three portfolios using a single-factor model. Information about the three portfolios is shown in Exhibit 2.

Exhibit 2: Portfolio Factor Sensitivity and Expected Return

Portfolio	<i>Expected Return</i>	<i>Factor Sensitivity</i>
X	0.10	1.00
Y	0.12	1.25
Z	0.15	1.50

Shepard is meeting with a client to discuss inclusion of actively managed funds in that client's portfolio. To prepare for the meeting, Shepard prepares a presentation to illustrate the merits and risks of this change. Shepard cannot recall the term that is used to capture the sum of active factor risk and active specific risk.

Shepard feels that the economy is finally out of recession and poised for robust growth over the next three to five years.

Last year, PSL's actual return was 8% (0.5% unexplained by the model). Inflation surprise, as well as GDP growth rate surprise, was +0.5%. PSL's expected return was *closest* to:

- A) 7.35%.
- B) 7.50%.

C) 8.50%.

Question #58 of 60

Question ID: 691907

Millennium Investments (MI), an investment advisory firm, provides asset allocation recommendations for its clients. Richie Shepard, senior analyst at MI, is using a two-factor macroeconomic model to evaluate a portfolio of two stocks: WMB and REL. The two factors in the model are surprises in inflation and in real GDP growth rate (both given in percentages). The portfolio is invested 60% in WMB. Factor sensitivity and other information for the two stocks are shown in Exhibit 1.

Exhibit 1: WMB and REL

Stock	$E(R)$	Inflation	GDP Growth Rate
WMB	9%	-2.2	+3.0
REL	10.8%	-1.0	+3.3

Another stock (not in the portfolio), PSL, has a factor sensitivity of -0.9 to inflation and +1.2 to GDP growth rate.

Shepard is also looking at evaluating three portfolios using a single-factor model. Information about the three portfolios is shown in Exhibit 2.

Exhibit 2: Portfolio Factor Sensitivity and Expected Return

Portfolio	Expected Return	Factor Sensitivity
X	0.10	1.00
Y	0.12	1.25
Z	0.15	1.50

Shepard is meeting with a client to discuss inclusion of actively managed funds in that client's portfolio. To prepare for the meeting, Shepard prepares a presentation to illustrate the merits and risks of this change. Shepard cannot recall the term that is used to capture the sum of active factor risk and active specific risk.

Shepard feels that the economy is finally out of recession and poised for robust growth over the next three to five years.

Using information in Exhibit 2, taking advantage of an arbitrage opportunity would *most likely* require shorting:

- A) portfolio X.
- B) portfolio Y.
- C) portfolio Z.

Question #59 of 60

Question ID: 691911

Millennium Investments (MI), an investment advisory firm, provides asset allocation recommendations for its clients. Richie Shepard, senior analyst at MI, is using a two-factor macroeconomic model to evaluate a portfolio of two stocks: WMB and REL. The two factors in the model are surprises in inflation and in real GDP growth rate (both given in percentages). The portfolio is invested 60% in WMB. Factor sensitivity and other information for the two stocks are shown in Exhibit 1.

Exhibit 1: WMB and REL

Stock	$E(R)$	Inflation	GDP Growth Rate
WMB	9%	-2.2	+3.0
REL	10.8%	-1.0	+3.3

Another stock (not in the portfolio), PSL, has a factor sensitivity of -0.9 to inflation and +1.2 to GDP growth rate.

Shepard is also looking at evaluating three portfolios using a single-factor model. Information about the three portfolios is shown in Exhibit 2.

Exhibit 2: Portfolio Factor Sensitivity and Expected Return

Portfolio	Expected Return	Factor Sensitivity
X	0.10	1.00
Y	0.12	1.25
Z	0.15	1.50

Shepard is meeting with a client to discuss inclusion of actively managed funds in that client's portfolio. To prepare for the meeting, Shepard prepares a presentation to illustrate the merits and risks of this change. Shepard cannot recall the term that is used to capture the sum of active factor risk and active specific risk.

Shepard feels that the economy is finally out of recession and poised for robust growth over the next three to five years.

.....

The term that Shepard cannot recall is *most likely*:

- A) active total risk.
- B) active risk squared.
- C) alpha risk.

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Millennium Investments (MI), an investment advisory firm, provides asset allocation recommendations for its clients. Richie Shepard, senior analyst at MI, is using a two-factor macroeconomic model to evaluate a portfolio of two stocks: WMB and REL. The two factors in the model are surprises in inflation and in real GDP growth rate (both given in percentages). The portfolio is invested 60% in WMB. Factor sensitivity and other information for the two stocks are shown in Exhibit 1.

Exhibit 1: WMB and REL

<i>Stock</i>	<i>E(R)</i>	<i>Inflation</i>	<i>GDP Growth Rate</i>
WMB	9%	-2.2	+3.0
REL	10.8%	-1.0	+3.3

Another stock (not in the portfolio), PSL, has a factor sensitivity of -0.9 to inflation and +1.2 to GDP growth rate.

Shepard is also looking at evaluating three portfolios using a single-factor model. Information about the three portfolios is shown in Exhibit 2.

Exhibit 2: Portfolio Factor Sensitivity and Expected Return

<i>Portfolio</i>	<i>Expected Return</i>	<i>Factor Sensitivity</i>
X	0.10	1.00
Y	0.12	1.25
Z	0.15	1.50

Shepard is meeting with a client to discuss inclusion of actively managed funds in that client's portfolio. To prepare for the meeting, Shepard prepares a presentation to illustrate the merits and risks of this change. Shepard cannot recall the term that is used to capture the sum of active factor risk and active specific risk.

Shepard feels that the economy is finally out of recession and poised for robust growth over the next three to five years.

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Based on Shepard's economic outlook, it can be *most appropriately* concluded that:

- A)** government bonds will outperform corporate bonds.
- B)** higher-rated corporate bonds will outperform lower-rated corporate bonds.
- C)** lower-rated corporate bonds will outperform higher-rated corporate bonds.